ROY COOPER
Governor

MICHAEL S. REGAN
Secretary

MICHAEL ABRACZINSKAS
Director

NORTH CAROLINA
Environmental Quality

??, 2018

Mr. Floyd Whitmire
Mill Manager
International Paper Riegelwood Mill
865 John L. Riegel Road
Riegelwood, North Carolina 28456

Dear Mr. Whitmire:

SUBJECT: **Air Quality Permit No. 03138T42**
Facility ID: 2400036
International Paper Riegelwood Mill
Riegelwood, North Carolina
Columbus County
Fee Class: Title V
PSD Status: Major

In accordance with your completed Air Quality Permit Application No. 2400036.18A for a PSD modification of your Title V permit, we are forwarding herewith Air Quality Permit No. 03138T42 to International Paper Riegelwood Mill, 865 John L. Riegel Road, Riegelwood, North Carolina, authorizing the construction and operation of the emission source(s) and associated air pollution control device(s) specified herein. Additionally, any emissions activities determined from your Air Quality Permit Application as being insignificant per 15A North Carolina Administrative Code 02Q .0503(8) have been listed for informational purposes as an "ATTACHMENT." Please note the requirements for the annual compliance certification are contained in General Condition P in Section 3. The current owner is responsible for submitting a compliance certification for the entire year regardless of who owned the facility during the year.

As the designated responsible official it is your responsibility to review, understand, and abide by all of the terms and conditions of the attached permit. It is also your responsibility to ensure that any person who operates any emission source and associated air pollution control device subject to any term or condition of the attached permit reviews, understands, and abides by the conditions of the attached permit that are applicable to that particular emission source.

If any parts, requirements, or limitations contained in this Air Quality Permit are unacceptable to you, you have the right to request a formal adjudicatory hearing within 30 days following receipt of this permit, identifying the specific issues to be contested. This hearing request must be in the form of a written petition, conforming to NCGS (North Carolina General Statutes) 150B-23, and filed with both the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, North Carolina 27699-6714 and the Division of Air Quality, Permitting Section, 1641 Mail Service Center, Raleigh, North Carolina 27699-1641. The form for requesting a formal

adjudicatory hearing may be obtained upon request from the Office of Administrative Hearings. Please note that this permit will be stayed in its entirety upon receipt of the request for a hearing. Unless a request for a hearing is made pursuant to NCGS 150B-23, this Air Quality Permit shall be final and binding thirty days after issuance.

You may request modification of your Air Quality Permit through informal means pursuant to NCGS 150B-22. This request must be submitted in writing to the Director and must identify the specific provisions or issues for which the modification is sought. Please note that this Air Quality Permit will become final and binding regardless of a request for informal modification unless a request for a hearing is also made under NCGS 150B-23.

The construction of new air pollution emission source(s) and associated air pollution control device(s), or modifications to the emission source(s) and air pollution control device(s) described in this permit must be covered under an Air Quality Permit issued by the Division of Air Quality prior to construction unless the Permittee has fulfilled the requirements of NCGS 143-215.108A(b) and received written approval from the Director of the Division of Air Quality to commence construction. Failure to receive an Air Quality Permit or written approval prior to commencing construction is a violation of NCGS 143-215.108A and may subject the Permittee to civil or criminal penalties as described in NCGS 143-215.114A and 143-215.114B.

Columbus County has triggered increment tracking under PSD for PM_{10}, SO_2 and NOx. This modification will result in an increase of emissions as follows: 10.13 pounds per hour of PM_{10}, 0.95 pounds per hour of SO_2 and 32.53 pounds per hour of NO_X.

This Air Quality Permit shall be effective from ??, 2018 and shall expire on the earlier of ??, 2023 or the renewal of Permit No. 03138T41 has been issued or denied. This Air Quality Permit is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein. Should you have any questions concerning this matter, please contact Brian Bland, at (919) 707-8732.

Sincerely yours,

William D. Willets, P.E., Chief, Permitting Section
Division of Air Quality, NCDEQ

Enclosure

c: Wilmington Regional Office
Central Files, Columbus County
Connie Horne (cover letter only)

Attachment 1

Insignificant Activities under 02Q .0503(8)

Emission Source I.D.	Emission Source Description
IES-CHS	Coal Handling System
IES-AHS	Ash Handling System
IES-ALS	Ash Loading System
IES-ST	Soap Tanks
IES-MLL	Methanol Line Losses
IES-CU	Chlorine Use at Filter Plant
IES-LF	Landfills
IES-CT	Cooling Towers
IES-PMAT	Paper Machine Additive Tanks; No. 15, No. 18 and King Repulpers
IES-RB5CRS	No. 5 Recovery Boiler Chloride Removal System
IES-Z6060 and IES-Z5073	Evaporator Boilout Tanks
IES-PMTKS	Various small tanks and drums containing petroleum products with capacity less than 10,000 gallons each in the paper machines area
IES-PRTKS	Various small tanks and drums containing petroleum products with capacity less than 10,000 gallons each in the power and recovery area
IES-1FOST	No. 1 #6 fuel oil storage tank (846,000 gallons) in power and recovery area (non-Kb tank)
IES-2FOST	No. 2 #6 fuel oil storage tank (1,050,000 gallons) in power and recovery area (non-Kb tank)
IES-PBDT	No. 6 fuel oil day tank East of power boilers (50,000 gallons) – non-Kb tank
IES-GFOST	No. 2 Fuel oil storage tank (10,600 gallons) in power and recovery area
IES-PBTKS	Various small tanks and drums containing petroleum products with capacity less than 10,000 gallons each in the pulping and bleaching areas
IES-TURP	28,000-gallon turpentine storage tank East of Kamyr Digester
IES-JA-037	8,000-gallon ammonia storage tank
IES-WYTKS	Various small tanks and drums containing petroleum products with capacity less than or equal to 10,000 gallons each in the woodyard area (non-Kb tanks)
IES-WTSAT	16,000 gallon Wastewater Treatment System Ammonia Tank
IES-WWTKS	Various small tanks and drums containing petroleum products with capacity less than or equal to 10,000 gallons each in the wastewater treatment, construction yard, and dock areas (non-Kb tanks)

1. Because an activity is insignificant does not mean that the activity is exempted from an applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement.

2. When applicable, emissions from stationary source activities identified above shall be included in determining compliance with the permit requirements for toxic air pollutants under 15A NCAC 02D .1100 “Control of Toxic Air Pollutants” or 02Q .0711 “Emission Rates Requiring a Permit”.

3. For additional information regarding the applicability of MACT or GACT see the DAQ page titled “Specific Permit Conditions Regulatory Guide.” The link to this site is as follows: http://deq.nc.gov/about/divisions/air-quality/air-quality-permits/specific-permit-conditions-regulatory-guide.

Attachment 2:
Summary of Changes to the Previous Permit

New Page(s)	Section	Description of Change(s)
Attachment	Insignificant Activities	Add note with link to applicability of MACT or GACT
All	All	Update dates and permit revision number Replace “2D” and “2Q” citations with “02D” and “02Q”
3	Permitted Items	Add 15A NCAC 02Q .0501(b)(2) modification footnote and tag associated emission sources Correct footnote associated with Application No. 2400036.15A to reflect the current citation is 15A NCAC 02Q .0501(b)(2)
109	Section 2.2 K	Add 15A NCAC 02Q .0504 paragraph requiring the submittal of a complete Title V application within one year of the issuance of Air Permit No. 3138T42
110	Section 3	Update General Conditions to current version

State of North Carolina
Department of Environmental Quality
Division of Air Quality

AIR QUALITY PERMIT

Permit No.	Replaces Permit No.(s)	Effective Date	Expiration Date
03138T42	NA	??, 2018	??, 2023*

*This permit shall expire on the earlier of ??, 2023 or the renewal of Permit No. 03138T41 has been issued or denied.

Until such time as this permit expires or is modified or revoked, the below named Permittee is permitted to construct and operate the emission source(s) and associated air pollution control device(s) specified herein, in accordance with the terms, conditions, and limitations within this permit. This permit is issued under the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and Title 15A North Carolina Administrative Codes (15A NCAC), Subchapters 02D and 02Q, and other applicable Laws.

Pursuant to Title 15A NCAC, Subchapter 02Q, the Permittee shall not construct, operate, or modify any emission source(s) or air pollution control device(s) without having first submitted a complete Air Quality Permit Application to the permitting authority and received an Air Quality Permit, except as provided in this permit.

Permittee: International Paper Riegelwood Mill

Facility ID: **2400036**

Facility Site Location: **865 John L. Riegel Road**
City, County, State, Zip: **Riegelwood, Columbus County, NC 28456**

Mailing Address: **865 John L. Riegel Road**
City, State, Zip: **Riegelwood, North Carolina 28456**

Application Number: **2400036.18A**
Complete Application Date: **February 21, 2018**
Primary SIC Code: **2611, 2631**

Division of Air Quality, Regional Office Address: **Wilmington Regional Office**
127 Cardinal Drive Extension
Wilmington, North Carolina 28405

Permit issued this the ?? of ??, 2018

_____

William D. Willets, P.E., Chief, Permitting Section
By Authority of the Environmental Management Commission

Table Of Contents

SECTION 1- PERMITTED EMISSION SOURCE(S) AND ASSOCIATED AIR POLLUTION CONTROL DEVICE(S) AND APPURTENANCES

The following table contains a summary of all permitted emission sources and associated air pollution control devices:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Power Operations			
ES-PB1***, # **2D .1109 Case-by-Case MACT**	No. 1 Power Boiler – natural gas/No. 4 equivalent used oil/No. 6 fuel oil-fired (250 million Btu per hour nominal heat input rate)	CD-PB1-SCRB	compressed air spray nozzle type wet scrubber (129 gallons per minute nominal minimum scrubber solution injection rate)
ES-PB2## **NSPS Subpart BB Control Device** **MACT Subpart S Control Device** **2D .1109 Case-by-Case MACT**	No. 2 Power Boiler – natural gas/No. 4 equivalent used oil/No. 6 fuel oil/coal/bark/wood fiber sludge/woodwaste absorbed oil residue/TRS gas-fired (425 million Btu per hour nominal heat input rate)	CD-PB2-MC and CD-PB2-SCRB	multicyclone (240, nine inch diameter tubes each) and a venturi scrubber (1,500 gallons per minute nominal minimum scrubber solution injection rate)
ES-PB5## **PSD** **NSPS Subpart BB Control Device** **MACT Subpart S Control Device** **2D .1109 Case-by-Case MACT**	No. 5 Power Boiler – No. 4 equivalent used oil/No. 6 fuel oil/coal/natural gas/bark/wood fiber sludge/woodwaste absorbed oil residue/TRS gas-fired (249 million Btu per hour maximum heat input rate from burning oil and/or coal, 600 million Btu per hour nominal heat input rate from bark/wood fiber sludge/fossil fuel combination firing) utilizing an Over-Fire Air (OFA) combustion system	CD-PB5-MC and CD-PB5-SCRB	multicyclone (304 nine inch diameter tubes) and a venturi scrubber (1,300 gallons per minute nominal minimum scrubber solution injection rate)
ES-PKB-1 and ES-PKB-2	Nos. 1 and 2 Temporary Package Boilers – No. 2 fuel oil/natural gas fired, heat input between 10 and 100 MMBtu/hr each.	NA	None
Wood Yard			
ES-WDYD*	Woodyard	NA	NA
ES-CW-1-1	No. 1 Truck dump cyclone	CD-CW-1-1	Simple cyclone (95 inches in diameter)
ES–CW-4-1	No. 4 Truck dump and railcar roll-over dump cyclone	CD-CW-4-1	Simple cyclone (72 inches in diameter)
ES-CW-5-1	No. 3 and No. 4 chip silos	CD-CW-5-1	Simple cyclone (132 inches in diameter)
ES-CW-6-1	No. 1 and No. 2 chip silos	CD-CW-6-1	Simple cyclone (132 inches in diameter)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Pulping Operations			
ES-O2D1 **MACT Subpart S**	Oxygen delignification system (including a pre-oxygen washer, reactor, blow tank, post oxygen washer, screens, knotters, and deckers)	NA	No control required per Clean Condensate Alternative under 40 CFR §63.447
ES-SBD **MACT Subpart S**	Small batch digester system (11 small batch digesters with associated blow tanks, blow gas condensing systems and turpentine condensing systems)	ES-PB2 or ES-PB5	No. 2 Power Boiler via NCG Collection System or No. 5 Power Boiler via NCG Collection System
ES-LBD **MACT Subpart S**	Large batch digester system (five large batch digesters with associated blow tank, filtrate flash tank and turpentine condensing systems)	ES-PB2 or ES-PB5	No. 2 Power Boiler via NCG Collection System or No. 5 Power Boiler via NCG Collection System
ES-K1# **PSD** **NSPS Subpart BB** **MACT Subpart S**	K1 fiber line (one Kamyr continuous digester with associated blow tank, filtrate flash tank and dedicated turpentine condensing system and a PSD-modified steaming vessel)	ES-PB2 or ES-PB5	No. 2 Power Boiler via NCG Collection System or No. 5 Power Boiler via NCG Collection System
ES-LUND **MACT Subpart S**	Lundberg Turpentine System	ES-PB2 or ES-PB5	No. 2 Power Boiler via NCG Collection System or No. 5 Power Boiler via NCG Collection System
ES-GOSL# **MACT Subpart S**	Goslin Turpentine System	ES-PB2 or ES-PB5	No. 2 Power Boiler via NCG Collection System or No. 5 Power Boiler via NCG Collection System
ES-BSW1 **MACT Subpart S**	Brown stock washer set No. 1	NA	No control required per Clean Condensate Alternative under 40 CFR §63.447
ES-BSW4, # **MACT Subpart S**	Brown stock washer set No. 4	NA	No control required per Clean Condensate Alternative under 40 CFR §63.447

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-ZG008 and ES-ZG0081 **NSPS Subpart BB** **MACT Subpart S**	No. 1 condensate stripper and No. 6 condensate stripper (formerly referred to as No. 2 condensate stripper)	ES-PB2 or ES-PB5	No. 2 Power Boiler via NCG Collection System or No. 5 Power Boiler via NCG Collection System
Chemical Recovery			
ES-EVAP5 and ES-EVAP6 ES-WELL4 ES-CSFT1 ES-CSFT6 **NSPS Subpart BB** **MACT Subpart S**	Evaporator sets (Nos. 5 and 6) No. 4 Hotwell No. 1 Condensate Steam Stripper Feed Tank No. 6 Condensate Steam Stripper Feed Tank	ES-PB2 or ES-PB5	No. 2 Power Boiler via NCG Collection System or No. 5 Power Boiler via NCG Collection System
ES-RX-010* and ES-RX-011*	Black liquor oxidation tanks*	NA	NA
ES-RB4 **MACT Subpart MM**	Recovery Boiler No. 4 - black liquor solids/ultra-low sulfur No. 2 fuel oil/No. 4 equivalent used oil/No. 6 fuel oil (nominal 2.4 million pounds of black liquor solids per day average/nominal 236 million Btu per hour heat input rate from firing fuel oil) with natural gas-fired ignitors	CD-4RB-ESP	Electrostatic Precipitator (81,648 square feet of collecting plate area)
ES-RB5# **PSD** **NSPS Subpart BB** **MACT Subpart MM**	Recovery Boiler No. 5 - black liquor solids/ultra-low sulfur No. 2 fuel oil/No. 4 equivalent used oil/No. 6 fuel oil (nominal 7.39 million pounds of black liquor solids per day average/nominal 557 million Btu per hour heat input rate from firing fuel oil) with natural gas-fired ignitors	CD-5RB-ESP	Electrostatic Precipitator (328,248 square feet of collecting plate area)
ES-ST4 **MACT Subpart MM**	No. 4 smelt dissolving tank	CD-4ST-1	wet scrubber-fan impingement type (148 gallons per minute scrubber solution injection rate)

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-ST5E and ES-ST5W **PSD** **NSPS Subpart BB** **MACT Subpart MM**	No. 5 East and West smelt dissolving tanks	CD-5EST-1 and CD-5WST-1	wet scrubber-fan impingement type (135 gallons per minute scrubber solution injection rate) and wet scrubber-fan impingement type (135 gallons per minute scrubber solution injection rate), installed one each respectively
ES-G96*	Big M weak black liquor tank*	NA	NA
ES-R0264*	50% Black liquor storage tank*	NA	NA
ES-R0265*	50% Black liquor storage tank*	NA	NA
ES-R0266*	50% Black liquor storage tank*	NA	NA
ES-Z5091*	65% Black liquor storage tank*	NA	NA
ES-Z5096*	65% Black liquor storage tank*	NA	NA
ES-T001#	HW weak black liquor tank	NA	NA
ES-T002	Weak black liquor BMP tank	NA	NA
ES-T003*	65% Black liquor storage tank*	NA	NA
Causticizing and Lime Recovery			
ES-SLK3	Lime slaker No. 3	CD-H-317	wet scrubber-open spray type (35 gallons per minute water injection rate)
ES-SLK6	Lime slaker No. 6	CD-H-259	wet scrubber-open spray type (35 gallons per minute water injection rate)
ES-LK3 **MACT Subpart MM**	Lime kiln No. 3 - No. 6 fuel oil/No. 4 equivalent used oil-fired (87 million Btu per hour nominal heat input rate) with natural gas-fired ignitors	CD-KK-213 and CD-3LK-1	Simple cyclone (96 inches in diameter) in series with wet scrubber-venturi type (880 gallons per minute liquid injection rate)
ES-K4001 **NSPS Subpart BB** **MACT Subpart MM**	Lime kiln No. 4 - No. 6 fuel oil/No. 4 equivalent used oil/natural gas-fired (212 million Btu per hour nominal heat input rate)	CD-K4021 and CD-K4006	electrostatic precipitator (36,975 square feet of collecting plate area) and wet scrubber - fixed throat, spray venturi type
ES-LH-Reburnt	Reburnt lime handling system (enclosed belt conveyor and bucket elevator)	CD–H-367	bagfilter (1005 square feet of filter area)
ES-RLS1	Reburnt lime silo No. 1		
ES-RLS2	Reburnt lime silo No. 2		
ES-H-84	Fresh lime silo (causticizing area)	CD-H-85	bagfilter (25 square feet of filter area)
ES-H-325*	No. 3 Set, Causticizer No. 1*	NA	NA
ES-H-327*	No. 3 Set, Causticizer No. 2*	NA	NA
ES-H-329*	No. 3 Set, Causticizer No. 3*	NA	NA
ES-H-332*	No. 5 Set, Causticizer No. 1*	NA	NA
ES-H-185*	No. 5 Set, Causticizer No. 2*	NA	NA
ES-H-184*	No. 5 Set, Causticizer No. 3*	NA	NA

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-H-191*	Clarifier No. 6, Green Liquor*	NA	NA
ES-H-171*	Clarifier No. 7, Green Liquor*	NA	NA
ES-H-226*	Clarifier No. 7, White Liquor*	NA	NA
Bleaching Operations			
ES-BP1 **MACT Subpart S**	Bleach plant No. 1	CD-BP-SCRB	wet scrubber with caustic injection (130 gallons per minute nominal minimum caustic solution injection rate)
ES-BP2 **MACT Subpart S**	Bleach plant No. 2		
ES-BP3# **MACT Subpart S**	Bleach plant No. 3		
ES-LL-155*	No. 3 chlorine dioxide generator single vessel process (SVP)*	CD-LL-283	wet scrubber-dual packed tower type with caustic injection (50 gallons per minute nominal minimum caustic injection rate)
ES-LL-140* **NSPS Subpart Kb**	Methanol storage tank (18,275 gallons)*	CD-LL-140-CV	conservation vent valve
ES-LO587* ES-LO625* ES-LO83* ES-LO84* ES-LO85*	Five (5) chlorine dioxide solution storage tanks*	CD-L-093 or CD-L-646 (backup)	wet scrubber-two stage, packed tower type (450 gallons per minute nominal minimum caustic injection rate) or wet scrubber-packed tower type with caustic injection (50 gallons per minute nominal minimum caustic injection rate)
Paper Making			
ES-PD	Pulp dryer	NA	NA
ES-J-009***, #	No. 15 Paper Machine, with natural gas-fired IR dryers (nominal capacity of 18.9 MMBtu/hr)	NA	NA
ES-JJ-030****, #	No. 18 Paper Machine, with natural gas-fired IR dryers (nominal capacity of 22.1 MMBtu/hr)	NA	NA
ES-FINOPS***, #	Finishing Operations	NA	NA
ES-JA301***, #	Starch silo	CD-DF-1	bagfilter (216 square feet of filter area)
ES-JA306***, #	Starch silo	CD-DF-2	bagfilter (216 square feet of filter area)
ES-JA307***, #	Starch silo	CD-DF-3	bagfilter (216 square feet of filter area)
ES-JA322***, #	Starch silo	CD-DF-4	bagfilter (216 square feet of filter area)
Water Treatment			
ES-V-139	Filter plant fresh lime bin	CD-V-142	bagfilter (25 square feet of filter area)
Miscellaneous Sources			

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
ES-HRDS*	Haul Roads*	NA	NA
ES-WWTS*	Wastewater treatment system*	NA	NA
ES-EE1, ES-EE2 and ES-EE3 **MACT ZZZZ****	No. 3 Lime Kiln gasoline-fired auxiliary engine (124 hp); No. 4 Lime Kiln diesel-fired auxiliary engine (377 hp); Diesel-fired emergency fire pump (290 hp)	NA	NA

* Sources identified with an asterisk have no applicable requirements under the North Carolina SIP, but their emissions are greater than the thresholds under 15A NCAC 02Q .0503(8); these sources are permitted pursuant to 15A NCAC 02Q .0508(i)(15).
** Compliance date of May 3, 2013 (ID Nos. ES-EE2 and ES-EE3) and October 19, 2013 (ID No. ES-EE1).
*** This equipment will not operate after September 1, 2016 and will be removed from the permit during the next permit modification after this date.
**** After September 1, 2016, the natural gas-fired IR dryers will not operate and this source will operate as No. 18 Pulp Dryer.
# The modifications (Application No. 2400036.15A) associated with these emission sources are listed as a 15A NCAC 02Q .0501(b)(2) modification. The Permittee shall file a Title V Air Quality Permit Application on or before 12 months after commencing operation in accordance with General Condition NN.1. The permit shield described in General Condition R does not apply and compliance certification as described in General Condition P is not required.
The modifications (Application No. 2400036.18A) associated with these emission sources are listed as a 15A NCAC 02Q .0501(b)(2) modification. The Permittee shall file a Title V Air Quality Permit Application within one year of the issuance date of Permit No. 03138T42 in accordance with General Condition NN.1. The permit shield described in General Condition R does not apply and compliance certification as described in General Condition P is not required.

SECTION 2 - SPECIFIC LIMITATIONS AND CONDITIONS

2.1- Emission Source(s) and Control Devices(s) Specific Limitations and Conditions

The emission source(s) and associated air pollution control device(s) and appurtenances listed below are subject to the following specific terms, conditions, and limitations, including the testing, monitoring, recordkeeping, and reporting requirements as specified herein:

A. No. 1 Power Boiler (ID No. ES-PB1) – natural gas/No. 4 equivalent used oil/No. 6 fuel oil-fired (250 million Btu per hour nominal heat input rate), controlled by a compressed air spray nozzle type wet scrubber (129 gallons per minute nominal minimum scrubber solution injection rate, ID No. CD-PB1-SCRB)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	0.16 pounds per million Btu heat input	15A NCAC 02D .0503
Sulfur Dioxide	2.3 pounds per million Btu heat input.	15A NCAC 02D .0516
Nitrogen Oxides	0.8 pounds per million Btu heat input while burning oil or natural gas	15A NCAC 02D .0519
Visible Emissions	40 percent opacity when averaged over a six-minute period except that six-minute periods averaging not more than 90 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period	15A NCAC 02D .0521
NC Toxics	See Permit Condition 2.2 E – STATE-ONLY REQUIREMENT	15A NCAC 02D .1100
HAPs	See Permit Condition 2.2 I – 112(j) Case-by-Case MACT	15A NCAC 02D .1109

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas/No. 4 equivalent oil/No. 6 fuel oil that are discharged from these sources into the atmosphere shall not exceed 0.16 pound per million Btu heat input. [15A NCAC 02D .0503(c)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the No. 1 Power Boiler (ID No. ES-PB1) for particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. Testing shall be completed and the results submitted within one year of the effective date of Permit No. 03138T37 unless an alternate date is approved by the DAQ. The testing shall be performed once per calendar year, no more than 15 months apart, or as required thereafter. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the source only fires natural gas during the calendar year, testing is not required. The Permittee shall test within 90 days of burning oil. If the results of this or any test is above the limit given in Section 2.1 A. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. Particulate matter emissions from the No. 1 Power Boiler (ID No. ES-PB1) shall be controlled by the wet scrubber. The wet scrubber is not required while the boiler is solely burning natural gas. The Permittee shall install, operate, and maintain a scrubber atomizing nozzle flowmeter on the scrubber. To ensure compliance and the effective operation of the scrubbers, the Permittee shall monitor and record, once per day, the scrubber atomizing nozzle flow rate. A 1-hour average value may be recorded. The scrubber atomizing nozzle flow rate shall be at or above 129 gallons per minute. If the scrubber

atomizing nozzle flow rate is not at or above 129 gallons per minute, the Permittee shall take appropriate corrective action within the monitoring period to return the flow rate to the appropriate operating range and record the action taken. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The readings shall be recorded in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, the flow rate gauge or device shall be calibrated within 18 months of the effective date of Permit No. 03138T37, and annually (not to exceed 14 months from the previous inspection) thereafter. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if an out of range scrubbing liquid flow rate is not corrected within the monitoring period.

e. The results of the corrective action activities, discussed above for the scrubber, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ upon request. The logbook shall record the following:
   i. the date and time of each recorded action
   ii. the results of each corrective action;
   iii. the causes for any variance from the allowable operating range for the scrubber; and
   iv. corrective actions taken.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. The maximum sulfur content of any No. 4 equivalent used oil or 6 fuel oil received and burned in the boiler shall not exceed 2.3 pounds per million Btu (as SO_2). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the fuel oil exceeds this limit.

d. To assure compliance, the Permittee shall monitor the sulfur and heat content of the fuel oil by using fuel oil supplier certification per shipment. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a semi-annual basis and include the following information:
   i. the name of the fuel oil supplier;
   ii. the maximum sulfur content of the fuel oil received during the semi-annual period;
   iii. the method used to determine the maximum sulfur content of the fuel oil;
   iv. the average heating value of the fuel oil received;
   v. the method used to determine the average heating value; and
   vi. the calculation of pounds SO_2 per million Btu.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur and heat content of the oil is not monitored.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the fuel oil supplier certifications postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The Permittee shall submit a certified statement signed by the responsible official that the records of fuel oil supplier

certification submitted represent all of the fuel oil fired during the period.

3. 15A NCAC 02D .0519: CONTROL OF NITROGEN DIOXIDE AND NITROGEN OXIDES EMISSIONS

a. Emissions of nitrogen oxides shall not exceed 0.8 pounds per million Btu of heat input from any oil or gas-fired boiler with a capacity of 250 million Btu per hour or more. [15A NCAC 02D .0519(b)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0519.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required from the firing of natural gas or No. 4 equivalent used oil or No. 6 fuel oil in this source for this regulation.

4. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from each source shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity. [15A NCAC 02D .0521 (c)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 A. 4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. The source has a wet stack. No monitoring, recordkeeping, or reporting is required. The monitoring, recordkeeping, and reporting requirements for demonstrating compliance given in Section 2.1. A. 1. above are deemed sufficient to demonstrate compliance with 15A NCAC 02D .0521.

B. No. 2 Power Boiler (ID No. ES-PB2) – natural gas/No. 4 equivalent used oil/No. 6 fuel oil/coal/bark/wood fiber sludge/woodwaste absorbed oil residue-fired power boiler with TRS gas injection (425 million Btu per hour nominal heat input rate), controlled by a multicyclone (240, nine inch diameter tubes each, ID No. CD-PB2-MC) and a venturi scrubber (1,500 gallons per minute nominal minimum scrubber solution injection rate, ID No. CD-PB2-SCRB)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Sulfur Dioxide	1.6 pounds per million Btu heat input	15A NCAC 02D .0501(c)
Particulate Matter	0.16 pounds per million Btu heat input (when firing natural gas/coal/ fuel oil only) 0.25 pounds per million Btu heat input (when firing bark/wood fiber sludge only) OR $Ec = [(Ew)(Qw) + (Eo)(Qo)]/Qt$ Where; Ec = emission limit for combined firing (pound per mmBtu) Ew = 0.25 pounds per million Btu heat input (when firing bark/wood fiber sludge only) Eo = 0.16 pounds per million Btu heat input (when firing natural gas/coal/ fuel oil only) Qw=actual wood heat input including wood fiber sludge Qo=actual heat input other than wood heat input; and Qt = Qw + Qo	15A NCAC 02D .0503 15A NCAC 02D .0504
Sulfur Dioxide	2.3 pound per million Btu heat input	15A NCAC 02D .0516
Sulfur Dioxide and Opacity	Monitoring requirements	15A NCAC 02D .0606
Nitrogen Oxides	0.8 pounds per million Btu heat input while burning oil or natural gas 1.8 pounds per million Btu heat input while burning coal OR $E = [(E_c)(Q_c) + (E_o)(Q_o)]/Q_t$ Where E = the emission limit in pounds per million Btu heat input for the fuel combination Ec = 1.8 pounds per million Btu heat input while burning coal. Eo = 0.8 pounds per million Btu heat input while burning oil or natural gas. Qc = coal heat input in Btu per hour Qo = oil and natural gas heat input in Btu per hour Qt = Qc + Qo	15A NCAC 02D .0519
Visible Emissions	40 percent opacity when averaged over a six-minute period except that six-minute periods averaging not more than 90 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period	15A NCAC 02D .0521
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100
HAPs	See Permit Condition 2.2 I – 112(j) Case-by-Case MACT	15A NCAC 02D .1109

1. 15A NCAC 02D .0501: COMPLIANCE WITH EMISSION CONTROL STANDARDS

a. Emissions of sulfur dioxide from this source shall not exceed 1.6 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0501(c)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 1. a. above, the Permittee shall be

deemed in noncompliance with 15A NCAC 02D .0501(c).

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To assure compliance, in addition to the monitoring requirements for the wet scrubber in Section 2.1 B. 2. c. through e. below, the Permittee shall also monitor the pH of the scrubber liquid. The Permittee shall install, operate, and maintain a pH meter on the wet scrubber. Unless the scrubber is being cleaned, the pH of the scrubber effluent recirculation line shall be:

i at or above 5. 8 when burning bark or natural gas with TRS gases,

ii at or above 6.4 when burning bark or natural gas with fuel oil and TRS gases, or

iii at or above 6.4 when burning bark or natural gas with coal and TRS gases or coal, fuel oil, and TRS gases.

If coal is burned in the boiler with bark, oil, and TRS gases for more than 10 days per consecutive twelve month period a stack test at representative conditions will be conducted and the results submitted within 120 days in accordance with a testing protocol approved by the DAQ to verify compliance with the limits in Sections 2.1 B. 1. a. and/or 2.1 B. 4. a and determine if additional monitoring is needed while burning bark or natural gas with coal and TRS gases or coal, fuel oil, and TRS gases. If the results of the stack test demonstrate an exceedance of the sulfur dioxide limit(s) in Sections 2.1 B. 1. a. and/or 2.1 B. 4. a., the Permittee shall be deemed in non-compliance with the same limit(s) for the periods of coal burning preceding the stack test. Prior to the results of the stack test being reflected in the air permit, coal burned in ID No. ES-PB2 shall not exceed 1.6% sulfur (by weight) or 50% of the fuel heat input.

During cleaning, only bark and/or natural gas may be fired in the boiler. The wet scrubber is not required while the boiler is burning solely natural gas.

d. The Permittee shall record the pH of the scrubbing liquid once a day. A 1-hour average value may be recorded. If the recorded pH of the scrubber effluent recirculation line is not at or above the applicable minimum value in 2.1 B. 1. c. above, the Permittee shall take appropriate corrective action within the monitoring period to return the pH to the appropriate operating range and record the action taken. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0501(c) if the pH is not corrected within the monitoring period. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas/No. 4 equivalent used oil/No. 6 fuel oil fuel oil/coal that are discharged from this source into the atmosphere shall not exceed 0.16 pounds per million Btu heat input. [15A NCAC 02D .0503(c)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from the No. 2 Power Boiler (ID No. ES-PB2) shall be controlled by the

multicyclone and venturi scrubber (ID Nos. CD-PB2-MC and CD-PB2-SCRB). The wet scrubber is not required while the boiler is burning solely natural gas. The Permittee shall install, operate and maintain a scrubbing liquid flowmeter and pressure drop indicator on the scrubber. In lieu of the scrubbing liquid flow meter, the Permittee may use motor amperage and the corresponding pump curve to monitor the flow to the scrubber. To ensure compliance and the effective operation of the scrubber, the Permittee shall monitor and record, once per day, scrubbing liquid flow rate (or motor amperage) and pressure drop. A 1-hour block average value may be recorded. The scrubbing liquid flow rate shall be at least 1,500 gpm or the scrubber pump motor amperage shall be at least 75 amps. The pressure drop shall be greater than or equal to 3.6 inches of water. If the scrubbing liquid flow rate (or motor amperage) and/or the average pressure drop is below the limit(s) described above, the Permittee shall, within the monitoring period, take (and record) appropriate corrective action to return the parameter(s) to the correct operating range. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The readings shall be recorded in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, the flow rate gauges or devices shall be calibrated within 18 months of the effective date of Permit No. 03138T37, and annually (not to exceed 14 months from the previous inspection) thereafter. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if an out of range scrubbing liquid flow rate (or motor amperage) or pressure drop is not corrected within the monitoring period.

d. The results of the corrective action activities, discussed above for the scrubber, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ upon request. The logbook shall record the following:
   i. the date and time of each recorded action
   ii. the results of each corrective action;
   iii. the causes for any variance from the allowable operating range for the scrubber; and
   iv. corrective actions taken.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

3. 15A NCAC 02D .0504: PARTICULATES FROM WOODBURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0504]

$$Ec = [(Ew)(Qw) + (Eo)(Qo)]/Qt$$

Where;
Ec = emission limit for combined firing (pound per mmBtu);
Ew = 0.25 pounds per million Btu heat input (when firing bark/wood fiber sludge only)
Eo = 0.16 pounds per million Btu heat input (when firing natural gas/coal/ fuel oil only)
Qw = actual wood heat input including wood fiber sludge in Btu per hour;
Qo = actual heat input other than wood heat input in Btu per hour; and
Qt = Qw + Qo

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504.

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the No. 2 Power Boiler (ID No. ES-PB2) for particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. Testing shall be completed and the results submitted within one year of the effective date of Permit No. 03138T37 unless an alternate date is

approved by the DAQ. The testing shall be performed once per calendar year, no more than 15 months apart, or as required thereafter. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the results of this or any test is above the limit given in Section 2.1 B. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504.

Monitoring/Recordkeeping/Reporting [NCAC 02Q .0508(f)]

d. To assure compliance, the Permittee shall follow the monitoring, recordkeeping, and reporting requirements per Specific Conditions 2.1 B. 2. c through e.

4. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f) and 02D .0606]
(while burning coal)

c. To assure compliance with 2.1 B. 4. a. and 15A NCAC 02D .0606, the Permittee shall follow the monitoring and recordkeeping requirements of Specific Conditions 2.1 B. 1. c. and d, as well as monitor the sulfur content and heat content of the coal by using coal supplier certification per total shipment received. The results of the coal supplier certifications shall be recorded in a logbook (written or electronic format) and include the following information:
   i. the name of the coal supplier;
   ii. a statement verifying that the methods used to determine the maximum sulfur content of the coal was in accordance with the following:
      (A) sampling - ASTM Method D 2234;
      (B) preparation - ASTM Method D 2013;
      (C) gross calorific value (Btu) - ASTM Method D-2015, D-3286, D-1989, or D-5865;
      (D) moisture content - ASTM Method D 3173 or D-3302; and
      (E) sulfur content - ASTM Method D 3177 or ASTM Method D 4239.
      Alternate test methods may be used upon prior DAQ approval per 15A NCAC 02D .0501(c)(18).

   The Permittee is required to calculate and record in a logbook (written or electronic format) the equivalent emission rate in pounds of sulfur dioxide per million Btu heat content of the coal per total shipment. This equivalent sulfur dioxide emission rate (pounds per million Btu heat input) shall be calculated in accordance with Method 19 of 40 CFR 60, Appendix A, Section 12.6 – Sulfur Retention Credit for Compliance Fuel. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the results show an exceedance of the limit given in Section 2.1 B. 4. a. above.
   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 and 02D .0606 if the requirements above are not monitored and recorded.

(while burning fuel oil)

d. To assure compliance with 2.1.B. 4. a. and 15A NCAC 02D .0606, the Permittee shall follow the monitoring and recordkeeping requirements of Specific Conditions 2.1 B. 1. c. and d. Additionally, Permittee shall monitor the sulfur and heat content of the fuel oil by using fuel oil supplier certification per shipment. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) and include the following information:
   i. the name of the fuel oil supplier;
   ii. the maximum sulfur content of the fuel oil received during the semi-annual period;
   iii. the method used to determine the maximum sulfur content of the fuel oil;
   iv. the average heating value of the fuel oil received;
   v. the method used to determine the average heating value; and
   vi. the calculation of pounds SO_2 per million Btu.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 and 15A NCAC 02D .0606 if the sulfur and heat content of the oil is not monitored.

Reporting [15A NCAC 02Q .0508(f) and 02D .0606]

e. The Permittee shall submit a summary report of the coal and fuel oil supplier certifications and calculated emission rates postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 and 02D .0606 if the reports are not submitted.

5. 15A NCAC 02D .0519: CONTROL OF NITROGEN OXIDES EMISSIONS

a. Emissions of nitrogen oxides from this source when burning natural gas, No. 4 equivalent used oil, No. 6 fuel oil and coal and shall be calculated by the following equation [15A NCAC 02D .0519]:

$$E = [(Ec)(Qc) + (Eo)(Qo)]/Qt$$

where:

E = emission limit for combined burning of natural gas, oil and coal in pounds per MMBtu heat input
Ec = 1.8 pounds per million Btu heat input for coal only
Eo = 0.8 pounds per million Btu heat input for oil or natural gas
Qc = coal heat input in Btu per hour
Qo = oil and natural gas heat input in Btu per hour
Qt = Qc + Qo

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 5. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0519.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required from the firing of natural gas, No. 4 equivalent used oil, No. 6 fuel oil or coal in this source for this regulation.

6. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity. [15A NCAC 02D .0521 (c)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 6. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f) and 02D .0606]

c. This source has a wet stack. The monitoring, recordkeeping, and reporting requirements for demonstrating compliance given in section 2.1 B. 2. c. through e. above are deemed sufficient to demonstrate compliance with 15A NCAC 02D .0521.

7. 15A NCAC 02D .0606: SOURCES COVERED BY APPENDIX P OF 40 CFR PART 51 (CONTINUOUS OPACITY MONITORING AND EXCESS EMISSIONS)

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f) and 02D .0606]

a. Opacity from the No. 2 Power Boiler (ID No. ES-PB2) shall be controlled by the multicyclone and venturi scrubber (ID Nos. CD-PB2-MC and CD-PB2-SCRB). The wet scrubber is not required while the boiler is burning solely natural gas. To ensure compliance and the effective operation of the scrubber, as described in NCDAQ's March 13, 2012 "Approval of Petition for Alternative Opacity

Monitoring on No. 2 and No. 5 Power Boilers" letter, the Permittee shall install, operate, and maintain a scrubbing liquid flowmeter and pressure drop indicator on the scrubber. In lieu of the scrubbing liquid flow meter, the Permittee may use motor amperage and corresponding pump curve to monitor the flow to the scrubber. To ensure compliance and the effective operation of the scrubber, the Permittee shall continuously monitor and record scrubbing liquid flow rate (or motor amperage) and pressure drop and calculate and record 3-hour block average values. The scrubbing liquid flow rate shall be at least 1,500 gpm. The scrubber pump motor amperage shall be at least 75 amps and the scrubber differential pressure shall be greater than or equal to 3.6 inches of water. If the 3-hour average scrubbing liquid flow rate is not at or above the established minimum value or the 3-hour average motor amperage is not greater than the established minimum value or the 3-hour average pressure drop is not at or above the established minimum value, the Permittee shall take appropriate corrective action within the monitoring period to return the flow rate or motor amperage to the appropriate operating range and record the action taken. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the observation. The readings shall be recorded in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, the Permittee shall develop and implement a quality assurance program for the scrubber parameter monitoring devices that meets the requirements of 15A NCAC 02D .0613. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0606 if the monitoring is not performed.

b. The quarterly excess emissions (EE) reports required under Appendix P of 40 CFR Part 51 shall be used as an indication of good operation and maintenance of the multicyclone and scrubber. These sources shall be deemed to be properly operated and maintained if the percentage of time the monitored scrubber parameters are below the established operating parameter ranges does not exceed 3.0 percent of the total operating time for any given calendar quarter, adjusted for monitor downtime (MD) as calculated below. In addition, these sources shall be deemed to be properly operated and maintained if the %MD does not exceed 3.0 percent.

Calculations for %EE and %MD

Percent Excess Emission (%EE) Calculation:

$$\%EE = \frac{\text{Total Excess Emission Time*}}{\text{(Total Source Operating Time***)} - \text{(Monitor Downtime)}} \times 100$$

Percent Monitor Downtime (%MD) Calculation:

$$\%MD = \frac{\text{Total Monitor Downtime**}}{\text{(Total Source Operating Time***)}} \times 100$$

* Total Excess Emission Time contains any 3-hour period below the established monitoring parameter range, including startup, shutdown, and malfunction.

** Total Monitor Downtime includes Quality Assurance (QA) activities unless exempted by regulation or defined in an agency approved QA Manual. The amount of exempt QA Time will be reported in the quarterly report as such.

*** If a source operates less than 2200 hours during any quarter, the source may calculate the %EE and/or %MD using all operating data for the current quarter and the preceding quarters until 2200 hours of data are obtained. [N.C.G.S. 143-215.110]

Testing [15A NCAC 02Q .0508(f)]

c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 B. 6. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Reporting [15A NCAC 02Q .0508(f) and 02D .0606]

d. The Permittee shall submit the excess emissions and monitor downtime reports as required under Appendix P of 40 CFR Part 51 no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-

month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

C. No. 5 Power Boiler (ID No. ES-PB5) –No. 4 equivalent used oil/No. 6 fuel oil/natural gas/coal/bark/wood fiber sludge/woodwaste absorbed oil residue-fired power boiler with TRS gas injection (249 million Btu per hour maximum heat input rate from burning oil and/or coal, 600 million Btu per hour nominal heat input rate from bark/wood fiber sludge/fossil fuel combination firing), utilizing an Over-Fired Air (OFA) combustion system and controlled by a multicyclone (56, twenty-four (24) inch diameter tubes each, ID No. CD-PB5-MC) and a venturi scrubber (1,300 gallons per minute nominal minimum scrubber solution injection rate, ID No. CD-PB5-SCRB)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	0.16 pounds per million Btu heat input (when firing natural gas/coal/ fuel oil only) 0.25 pounds per million Btu heat input (when firing bark/wood fiber sludge only) OR $Ec = [(Ew)(Qw) + (Eo)(Qo)]/Qt$ Where; Ec = emission limit for combined firing (pound per mmBtu); Ew = 0.25 pounds per million Btu heat input (when firing bark/wood fiber sludge only) Eo = 0.16 pounds per million Btu heat input (when firing natural gas/coal/ fuel oil only) Qw = actual wood heat input including wood fiber sludge in Btu per hour; Qo = actual heat input other than wood heat input in Btu per hour; and Qt = Qw + Qo	15A NCAC 02D .0503 15A NCAC 02D .0504
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Nitrogen Oxides	0.8 pound per million Btu heat input while burning oil or natural gas 1.8 pounds per million Btu heat input while burning coal OR $E = [(E_c)(Q_c) + (E_o)(Q_o)]/Q_t$ Where E = the emission limit in pounds per million Btu heat input for the fuel combination Ec = 1.8 pounds per million Btu heat input while burning coal. Eo = 0.8 pounds per million Btu heat input while burning oil or natural gas. Qc = coal heat input in Btu per hour Qo = oil and natural gas heat input in Btu per hour Qt = Qc + Qo	15A NCAC 02D .0519
Visible Emissions	20 percent opacity when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period	15A NCAC 02D .0521
Particulate Matter Sulfur Dioxide Nitrogen Oxides Carbon Monoxide	0.16 pound per million Btu heat input (while burning coal) 0.0562 pound per million Btu heat input (while burning oil) 0.25 pounds per million Btu heat input (while burning bark/wood fiber sludge) 0.80 pounds per million Btu heat input (while burning coal) 0.80 pounds per million Btu heat input (while burning oil) 0.024 pound per million Btu heat input (while burning bark/wood fiber sludge) 0.4 pound per million Btu heat input (while burning coal) 0.367 pound per million Btu heat input (while burning oil) 0.35 pound per million Btu heat input (while burning bark/wood fiber sludge) 0.208 pound per million Btu heat input (while burning coal) 0.033 pound per million Btu heat input (while burning oil)	15A NCAC 02D .0530 BACT

Regulated Pollutant	Limits/Standards	Applicable Regulations
Volatile Organic Compounds	0.50 pound per million Btu heat input (while burning bark/wood fiber sludge) 0.00292 pound per million Btu heat input (while burning coal) 0.00187 pound per million Btu heat input (while burning oil) 0.213 pound per million Btu heat input (while burning bark/wood fiber sludge)	
Opacity	Monitoring requirements	15A NCAC 02D .0607
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100
PSD Pollutants	Reporting requirement (Permit Condition 2.1 C. 7.)	15A NCAC 02D .0530(u) (Use of projected actual emissions)
HAPs	See Permit Condition 2.2 I – 112(j) Case-by-Case MACT	15A NCAC 02D .1109

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas/No. 4 equivalent used oil/No. 6 fuel oil fuel oil/coal that are discharged from this source into the atmosphere shall not exceed 0.16 pound per million Btu heat input. [15A NCAC 02D .0503(c)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

c. **Monitoring/Recordkeeping** [15A NCAC 02Q .0508(f)]
Particulate matter emissions from the No. 5 Power Boiler (ID No. ES-PB5) shall be controlled by the multicyclone and venturi scrubber (ID Nos. CD-PB5-MC and CD-PB5-SCRB). The wet scrubber is not required while the boiler is burning solely natural gas. The Permittee shall install, operate, and maintain a scrubbing liquid flowmeter and pressure drop indicator on the scrubber. In lieu of the scrubbing liquid flow meter, the Permittee may use motor amperage and corresponding pump curve to monitor the flow to the scrubber. To ensure compliance and the effective operation of the scrubber, the Permittee shall monitor and record, once per day, scrubbing liquid flow rate (or motor amperage) and pressure drop. A 1-hour block average may be recorded. The scrubbing liquid flow rate shall be at least 1,300 gpm or the motor amperage shall be at least 67 amps. The pressure drop shall be greater than or equal to 11.5 inches of water. If the scrubbing liquid flow rate (or motor amperage) and/or the average pressure drop is below the limit(s) described above, the Permittee shall, within the monitoring period, take (and record) appropriate corrective action to return the parameter(s) to the correct operating range. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The readings shall be recorded in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, the flow rate gauges or devices shall be calibrated within 18 months of the effective date of Permit No. 03138T37, and annually (not to exceed 14 months from the previous inspection) thereafter. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503 if an out of range scrubbing liquid flow rate (or motor amperage) or pressure drop is not corrected within the monitoring period.

d. The results of the corrective action activities, discussed above for the scrubber, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ upon request. The logbook shall record the following:
   i. the date and time of each recorded action
   ii. the results of each corrective action;
   iii. the causes for any variance from the allowable operating range for the scrubber; and
   iv. corrective actions taken.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and

December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0504: PARTICULATES FROM WOODBURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0504]

$$Ec = [(Ew)(Qw) + (Eo)(Qo)]/Qt$$

Where;
Ec = emission limit for combined firing (pound per mmBtu);
Ew = 0.25 pounds per million Btu heat input (when firing bark/wood fiber sludge only)
Eo = 0.16 pounds per million Btu heat input (when firing natural gas/coal/ fuel oil only)
Qw = actual wood heat input including wood fiber sludge;
Qo = actual heat input other than wood heat input; and
Qt = Qw + Qo

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504.

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the No. 5 Power Boiler (ID No. ES-PB5) for particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. Testing shall be completed and the results submitted within one year of the effective date of Permit No. 03138T37 unless an alternate date is approved by the DAQ. The testing shall be performed once per calendar year, no more than 15 months apart, or as required thereafter. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the results of this or any test is above the limit given in Section 2.1 C. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0504.

Monitoring/Recordkeeping/Reporting [NCAC 02Q .0508(f)]

d. To assure compliance, the Permittee shall follow the monitoring, recordkeeping, and reporting requirements per Specific Conditions 2.1 C. 1. c through e.

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To assure compliance, in addition to the monitoring requirements for wet scrubber in Section 2.1 C. 1. c. through e. above, the Permittee shall also monitor the pH of the scrubber liquid. The Permittee shall install, operate, and maintain a pH meter on the wet scrubber. The pH of the scrubber effluent recirculation line shall be at or above 6.8 unless the scrubber is being cleaned. During cleaning, only bark and/or natural gas may be fired in the boiler.

d. The Permittee shall record the pH of the scrubbing liquid once a day. A 1-hour average value may be recorded. If the recorded pH of the scrubber effluent recirculation line is not at or above 6.8, the

Permittee shall take appropriate corrective action within the monitoring period to return the pH to the appropriate operating range and record the action taken. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if an out of range pH is not corrected within the monitoring period. The Permittee shall be allowed three (3) days of absent observations per semi-annual period.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02D .0519: CONTROL OF NITROGEN OXIDES EMISSIONS

a. Emissions of nitrogen oxides from this source when burning natural gas, No. 4 equivalent used oil, No. 6 fuel oil and coal and shall be calculated by the following equation [15A NCAC 02D .0519]:

$$E = [(Ec)(Qc) + (Eo)(Qo)]/Qt$$

where:

E = emission limit for combined burning of natural gas, oil and coal in pounds per MMBtu heat input
Ec = 1.8 pounds per million Btu heat input for coal only
Eo = 0.8 pounds per million Btu heat input for oil or natural gas
Qc = coal heat input in Btu per hour
Qo = oil and natural gas heat input in Btu per hour
Qt = Qc + Qo

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C. 4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0519.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required from the firing of natural gas, No. 4 equivalent used oil, No. 6 fuel oil or coal in this source for this regulation.

5. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from this source shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C. 5. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [NCAC 02Q .0508(f) and 02D .0607]

c. This emission source has a wet stack. The monitoring, recordkeeping, and reporting requirements for demonstrating compliance given in section 2.1 C. 1. c. through e. above are deemed sufficient to demonstrate compliance with 15A NCAC 02D .0521.

6. 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

Pollutant	Emission Limits
Particulate matter	0.16 pounds per mmBtu heat input for coal 0.0562 pounds per mmBtu heat input for oil 0.25 pounds per mmBtu heat input for bark/wood fiber sludge
Sulfur dioxide	0.80 pounds per mmBtu heat input for coal 0.80 pounds per mmBtu heat input for oil 0.024 pounds per mmBtu heat input for bark/wood fiber sludge
Nitrogen Oxides	0.4 pounds per mmBtu heat input for coal 0.367 pounds per mmBtu heat input for oil 0.35 pounds per MmBtu for bark/wood fiber sludge
Carbon Monoxide	0.208 pounds per mmBtu heat input for coal 0.033 pounds per mmBtu heat input for oil 0.50 pounds per mmBtu heat input for bark/wood fiber sludge
Volatile Organic Compounds	0.00292 pounds per mmBtu heat input for coal 0.00187 pounds per mmBtu heat input for oil 0.213 pounds per mmBtu heat input for bark/wood fiber sludge

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1 C. 6. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the No. 5 Power Boiler (ID No. ES-PB5) for Particulate Matter (PM). Sulfur Dioxide (SO_2), Nitrogen Oxides (NOx), Carbon Monoxide (CO) and Volatile Organic Compounds (VOCs) in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. Testing shall be completed and the results submitted within one year of the effective date of Permit No. 03138T37 unless an alternate date is approved by the DAQ. The testing shall be performed once per calendar year, no more than 15 months apart, or as required thereafter. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the results of this or any test are above the limit given in Section 2.1 C. 6. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/ Recordkeeping [15A NCAC 02Q .0508(f)]

d. The maximum permitted heat input rate of No. 5 Power Boiler from fossil fuel firing shall not exceed 249 million Btu per hour (annual average). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the heat input rate of No. 5 Power Boiler from fossil fuel exceeds 249 million Btu per hour (annual average).

e. The Permittee shall demonstrate compliance with the fossil fuel heat input rate by using measured fuel heat content (either direct analysis or vendor certifications) and a flow device (i.e., mass flow meters for liquid fuels, belt scales or auger meters for coal, etc.) as approved by the DAQ. If the results of any calculations or estimation (of fossil fuel heat input) indicate that fossil fuel heat input to the boiler exceeds the limit given in Section 2.1 C. 6. d. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

f. The Permittee shall maintain heat input calculations, associated measurements, and analytical results.

g. To assure compliance, the Permittee shall follow the monitoring, recordkeeping, and reporting requirements per Specific Conditions 2.1 C. 1. c. through e.

h. To assure compliance, the Permittee shall follow the monitoring, recordkeeping, and reporting requirements per Specific Conditions 2.1 C. 3. c. through e.

Reporting [15A NCAC 02Q .0508 (f)]

i. The Permittee shall submit a summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities within 30 days after each semi-annual period, due by January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June.

7. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS

a. Pursuant to 15A NCAC 02D .0530(u) because the Permittee relied on projected actual emissions for the purposes of demonstrating that the proposed project described in Permit Application 2400036.11B for modifications to the No. 5 Power Boiler did not result in a significant emissions increase, the owner or operator shall submit a report to the Regional Office within 60 days after the end of each calendar year during which these records must be generated. In addition to the items listed in the table below, the report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c). These records and reports shall be maintained for five years following regular operations after the change.

Fuel	**Projection (annual unless otherwise provided) ***
Bark/Wood	219,060 tons
Sludge	9,263 tons
Coal	771 tons
No. 6 Fuel Oil	3,301 Mgal
Natural Gas	653 MMscf

* These projections are not enforceable limitations. If parameter exceeds the projection, consistent with 15A NCAC 02D .0530, the permit shall include in its annual report an explanation as to why the actual rates exceeded the projection.

8. 15A NCAC 02D .0607: LARGE WOOD AND WOOD-FOSSIL FUEL COMBINATION UNITS (CONTINUOUS OPACITY MONITORING AND EXCESS EMISSIONS)

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f) and 02D .0607]

a. Opacity from the No. 5 Power Boiler (ID No. ES-PB5) shall be controlled by the multicyclone and venturi scrubber (ID Nos. CD-PB5-MC and CD-PB5-SCRB). The wet scrubber is not required while the boiler is burning solely natural gas. To ensure compliance and the effective operation of the scrubber, as described in NCDAQ's March 13, 2012 "Approval of Petition for Alternative Opacity Monitoring on No. 2 and No. 5 Power Boilers" letter, the Permittee shall install, operate, and maintain a scrubbing liquid flowmeter and pressure drop indicator on the scrubber. In lieu of the scrubbing liquid flow meter, the Permittee may use motor amperage and corresponding pump curve to monitor the flow to the scrubber. To ensure compliance and the effective operation of the scrubber, the Permittee shall continuously monitor and record scrubbing liquid flow rate (or motor amperage) and pressure drop and calculate and record 3-hour block average values. The scrubbing liquid flow rate shall be at least 1,300 gpm. The scrubber pump motor amperage shall be at least 67 amps and the scrubber differential pressure shall be greater than or equal to 11.5 inches of water. If the 3-hour average scrubbing liquid flow rate is not at or above the established minimum value or the 3-hour average motor amperage is not greater than the established minimum value or the 3-hour average pressure drop is not at or above the established minimum value, the Permittee shall take appropriate corrective action within the monitoring period to return the flow rate or motor amperage to the appropriate operating range and record the action taken. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the observation. The readings shall be recorded in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, the Permittee shall develop and implement a quality assurance program for the scrubber parameter monitoring devices that meets the requirements of 15A NCAC 02D .0613. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0607 if the monitoring is not performed.

b. The quarterly excess emissions (EE) reports required under Appendix P of 40 CFR Part 51 shall be used

as an indication of good operation and maintenance of the multicyclone and scrubber. These sources shall be deemed to be properly operated and maintained if the percentage of time the monitored scrubber parameters are below the established operating parameter ranges does not exceed 3.0 percent of the total operating time for any given calendar quarter, adjusted for monitor downtime (MD) as calculated below. In addition, these sources shall be deemed to be properly operated and maintained if the %MD does not exceed 3.0 percent.

Calculations for %EE and %MD

Percent Excess Emission (%EE) Calculation:

$$\%EE = \frac{\textit{Total Excess Emission Time*}}{\textit{(Total Source Operating Time***) - (Monitor Downtime)}} \times 100$$

Percent Monitor Downtime (%MD) Calculation:

$$\%MD = \frac{\textit{Total Monitor Downtime**}}{\textit{(Total Source Operating Time***)}} \times 100$$

* Total Excess Emission Time contains any 3-hour period below the established monitoring parameter range, including startup, shutdown, and malfunction.

** Total Monitor Downtime includes Quality Assurance (QA) activities unless exempted by regulation or defined in an agency approved QA Manual. The amount of exempt QA Time will be reported in the quarterly report as such.

*** If a source operates less than 2200 hours during any quarter, the source may calculate the %EE and/or %MD using all operating data for the current quarter and the preceding quarters until 2200 hours of data are obtained. [N.C.G.S. 143-215.110]

Testing [15A NCAC 02Q .0508(f)]

c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 C. 5. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Reporting [15A NCAC 02Q .0508(f) and 02D .0606]

d. The Permittee shall submit the excess emissions and monitor downtime reports as required under Appendix P of 40 CFR Part 51 no later than January 30 of each calendar year for the preceding three-month period between October and December, April 30 of each calendar year for the preceding three-month period between January and March, July 30 of each calendar year for the preceding three-month period between April and June, and October 30 of each calendar year for the preceding three-month period between July and September. All instances of deviations from the requirements of this permit must be clearly identified.

D. Wood Yard

KMW Screens (ID No. ES-CW-1-1) Controlled by a Simple Cyclone (95 inches in diameter) (ID No. CD-CW-1-1);

Truck dump and railcar roll-over dump (ID No. ES-CW-4-1) Controlled by a Simple Cyclone (72 inches in diameter) (ID No. CD-CW-4-1);

No. 3 and No. 4 chip silos (ID No. ES-CW-5-1) Controlled by a Simple Cyclone (132 inches in diameter) (ID No. CD-CW-5-1); and

No. 1 and No. 2 chip silos (ID No. ES-CW-6-1) Controlled by a Simple Cyclone (132 inches in diameter) (ID No. CD-CW-6-1)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	$E = 4.10 \times P^{0.67}$ Where: E = allowable emission rate in pound per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	Visible emissions shall not be more than 20 percent opacity when averaged over a six-minute period except that six-minute periods averaging not more than 87 percent opacity may occur not more than once in any hour nor more than four times in any 24-hour period	15A NCAC 02D .0521

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from each source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from each source shall be controlled by the cyclone. To assure compliance, the Permittee shall perform inspections and maintenance on the cyclones; as a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly visual inspection (for each calendar month, not to exceed 6 weeks from the previous inspection) of the system ductwork and material collection unit for leaks; and
   ii. an annual inspection (for each calendar year, not to exceed 18 months from the effective date of Permit No. 03138T37, and not to exceed 14 months from the previous inspection, thereafter) of each cyclone's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and cyclones are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each inspection;

iii. the results of any maintenance performed on the cyclones; and
iv. any variance from manufacturer's recommendations, if any, and corrections made.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the cyclones within 30 days of a written request by the DAQ.
f. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from each source shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 D. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring [15A NCAC 02Q .0508(f)]

c. To assure compliance, once a month the Permittee shall observe the emission points of each source for any visible emissions above normal. If the emission source(s) are not operating, a record of this fact along with the corresponding date and time shall substitute for the monthly observation. The Permittee shall establish normal for the source in the first 30 days following the effective date of permit 03138T37. If visible emissions from any source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 D. 2. a. above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521.

Recordkeeping [15A NCAC 02Q .0508(f)]

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each observation and/or test noting those sources with emissions that were observed to be above normal along with any corrective actions taken to reduce visible emissions; and
   iii. the results of any corrective actions performed.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

E. The Digester Systems consisting of the:

Small batch digester system consisting of eleven (11) small batch digesters with associated blow tanks, blow gas condensing systems, and turpentine condensing systems (ID No. ES-SBD); and

Large batch digester system consisting of five (5) large batch digesters with associated blow tank, filtrate flash tank, and turpentine condensing systems (ID No. ES-LBD);

Controlled by the LVHC NCG Collection System routed to the No. 2 Power Boiler (ID No. ES-PB2) or No. 5 Power Boiler (ID No. ES-PB5)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Total Reduced Sulfur (TRS)	5 ppm by volume on a dry basis	15A NCAC 02D .0528
HAP Emissions	See Permit Condition 2.2 A	15A NCAC 02D .1111 (40 CFR Part 63 Subpart S - MACT)

1. 15A NCAC 02D .0528: TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

a. The emissions of total reduced sulfur shall not exceed five parts per million from any digester system, measured as hydrogen sulfide on a dry gas basis and averaged per discrete contiguous 12-hour time period. [15A NCAC 02D .0528]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 E. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. The digester system emission sources, shall comply with the limitation above by ensuring the following:
   i. The gases are combusted in the No. 2 Power Boiler; or
   ii. The gases are combusted in the No. 5 Power Boiler.

d. The Permittee shall follow the closed vent inspection procedures per Specific Condition 2.2 A to ensure that the emissions are routed to either the No. 2 Power Boiler (ID No. ES-PB2) or No. 5 Power Boiler (ID No. ES-PB5) as specified above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528 if these procedures are not followed.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

F. The K1 fiber line Digester System (ID No ES-K1) consisting of:
one Kamyr continuous digester with associated blow tank, filtrate flash tank, and dedicated turpentine condensing system and a PSD-modified steaming vessel;
Controlled by the LVHC NCG Collection System routed to the No. 2 Power Boiler (ID No. ES-PB2) or No. 5 Power Boiler (ID No. ES-PB5)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Total Reduced Sulfur (TRS)	5 ppm by volume on a dry basis, corrected to 10 percent oxygen	15A NCAC 02D .0524 (40 CFR Part 60 Subpart BB)
HAP Emissions	See Permit Condition 2.2 A	15A NCAC 02D .1111 (40 CFR Part 63 Subpart S - MACT)
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100
PSD Pollutants	See Permit Condition 2.2 H	15A NCAC 02D .0530(u) (Use of projected actual emissions)

1. 15A NCAC 02D .0524: NSPS 40 CFR 60 SUBPART BB

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions."[15A NCAC 02D .0524]

Emissions Limitations [15A NCAC 02D .0524]

b. No owner or operator shall cause to be discharged into the atmosphere any gases which contain TRS in excess of 5 ppm by volume measured as hydrogen sulfide on a dry basis, corrected to 10 percent oxygen, unless the gases are combusted with other waste gases in an incinerator or other device, and are subjected to a minimum temperature of 650 °C (1200 °F) for at least 0.5 second. [40 CFR Part 60, Subpart 60.283(a)(1)]

Monitoring [15A NCAC 02Q .0508(f)]

c. The Permittee shall follow the closed vent inspection procedures per Specific Condition 2.2 A to ensure that the emissions are routed to either the No. 2 Power Boiler (ID No. ES-PB2) or No. 5 Power Boiler (ID No. ES-PB5) as specified above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these procedures are not followed.

Reporting/ Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall follow the requirements of 40 CFR § 60.284(d) for reporting of excess emissions.
e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

G. The No. 1 and No. 6 Condensate Steam Strippers (ID Nos. ES-ZG008 and ES-ZG0081) Controlled by the LVHC NCG Collection System routed to the No. 2 Power Boiler (ID No. ES-PB2) or No. 5 Power Boiler (ID No. ES-PB5)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Total Reduced Sulfur (TRS)	5 ppm by volume on a dry basis, corrected to 10 percent oxygen	15A NCAC 02D .0524 (40 CFR Part 60 Subpart BB
HAP Emissions	See Permit Condition 2.2 A	15A NCAC 02D .1111 (40 CFR Part 63 Subpart S - MACT)

1. 15A NCAC 02D .0524: NSPS 40 CFR 60 SUBPART BB

a. For the emission source above, the Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions."[15A NCAC 02D .0524]

Emissions Limitations [15A NCAC 02D .0524]

b. No owner or operator shall cause to be discharged into the atmosphere any gases which contain TRS in excess of 5 ppm by volume measured as hydrogen sulfide on a dry basis, corrected to 10 percent oxygen, unless the gases are combusted with other waste gases in an incinerator or other device, and are subjected to a minimum temperature of 650 °C (1200 °F) for at least 0.5 second. [40 CFR Part 60, Subpart 60.283(a)(1)]

Monitoring [15A NCAC 02Q .0508(f)]

c. The Permittee shall follow the closed vent inspection procedures per Specific Condition 2.2 A to ensure that the emissions are routed to either the No. 2 Power Boiler (ID No. ES-PB2) or No. 5 Power Boiler (ID No. ES-PB5) as specified above. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these procedures are not followed.

Reporting/ Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall follow the requirements of 40 CFR § 60.284(d) for reporting of excess emissions.
e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

H. Evaporator Sets Nos. 5 and 6 (ID Nos. ES-EVAP5 and ES-EVAP6) Controlled by the NCG Collection System routed to No. 2 Power Boiler (ID No. ES-PB2) or No. 5 Power Boiler (ID No. ES-PB5)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Total Reduced Sulfur (TRS)	5 ppm by volume on a dry basis, corrected to 10 percent oxygen	15A NCAC 02D .0524 (40 CFR Part 60 Subpart BB)
HAP Emissions	See Permit Condition 2.2 A	15A NCAC 02D .1111 (40 CFR Part 63 Subpart S - MACT)

1. 15A NCAC 02D .0524: NSPS 40 CFR 60 SUBPART BB

a. For the emission sources (ID Nos. ES-EVAP5 and ES-EVAP6), the Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions."[15A NCAC 02D .0524]

Emissions Limitations [15A NCAC 02D .0524]

b. For the emission sources (ID Nos. ES-EVAP5 and ES-EVAP6), no owner or operator shall cause to be discharged into the atmosphere any gases which contain TRS in excess of 5 ppm by volume measured as hydrogen sulfide on a dry basis, corrected to 10 percent oxygen, unless the gases are combusted with other waste gases in an incinerator or other device, and are subjected to a minimum temperature of 650 °C (1200 °F) for at least 0.5 second [40 CFR Part 60, Subpart 60.283(a)(1)].

Monitoring [15A NCAC 02Q .0508(f)]

c. The Permittee shall follow the closed vent inspection procedures per Specific Condition 2.2 A to ensure that the emissions are routed to either the No. 2 Power Boiler (ID No. ES-PB2) or No. 5 Power Boiler (ID No. ES-PB5) as specified above. The Permittee shall be deemed in noncompliance with 02D .0524 if these procedures are not followed.

Reporting/ Recordkeeping [15A NCAC 02Q .0508(f)]

d. The Permittee shall follow the requirements of 40 CFR § 60.284(d) for reporting of excess emissions.

e. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

I. Recovery Boiler No. 4 (ID No. ES-RB4) – Black liquor solids/ ultra low sulfur No. 2 fuel oil/ No. 4 equivalent used oil/ No. 6 fuel oil (nominal 2.4 million pounds of black liquor solids per day average/nominal 236 million Btu per hour heat input rate from firing fuel oil), Controlled by the Electrostatic Precipitator (ID No. CD-4RB-ESP)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	3.0 pounds per equivalent tons of air dried pulp	15A NCAC 02D .0508
Visible Emissions	35 percent opacity	15A NCAC 02D .0508
Sulfur Dioxide	2.3 pounds per million Btu heat input.	15A NCAC 02D .0516
Total Reduced Sulfur (TRS)	20 ppm by volume on a dry basis, corrected to 8 percent oxygen	15A NCAC 02D .0528
HAP Emissions	See Permit Condition 2.2 C	15A NCAC 02D .1111 (40 CFR Part 63 Subpart MM)
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100

1. 15A NCAC 02D .0508: PARTICULATES FROM PULP AND PAPER MILLS

a. Emissions from the production of pulp and paper that are discharged from this source into the atmosphere shall not exceed:
   i. 3.0 pounds of particulate matter per equivalent tons of air dried pulp. [15A NCAC 02D .0508(a)];
   ii. Visible emissions shall not be more than 35 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 35 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 89 percent opacity. [15A NCAC 02D .0508 (b)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 I. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the Recovery Boiler No. 4 (ID No. ES-RB4) for total particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. Testing shall be completed and the results submitted within one year of the effective date of Permit No. 03138T37 unless an alternate date is approved by the DAQ. The testing shall be performed once per calendar year, no more than 15 months apart, thereafter. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the results of this or any test are above the limit given in Section 2.1 I. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

Monitoring and Recordkeeping [15A NCAC 02Q .0508(f)]

d. Particulate matter emissions from the Recovery Boiler No. 4 shall be controlled by the Electrostatic Precipitator (ID No. CD-4RB-ESP). To assure compliance with the particulate matter and opacity standards, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 C of this permit.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source shall not exceed 2.3 pounds per million Btu heat input.

Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 I. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. The maximum sulfur content of any No. 2, No. 4 or No. 6 fuel oil received and burned in the Recovery Boiler No. 4 shall not exceed 2.3 pounds per million Btu (as SO_2). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the fuel oil exceeds this limit.

d. To assure compliance, the Permittee shall monitor the sulfur and heat content of the fuel oil by using fuel oil supplier certification per shipment. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a semi-annual basis and include the following information:
   i. the name of the fuel oil supplier;
   ii. the maximum sulfur content of the fuel oil received during the semi-annual period;
   iii. the average heat content of the fuel received during the semi-annual period;
   iv. the method used to determine the maximum sulfur and heat content of the fuel oil; and
   v. the calculation of pounds SO_2 per million Btu.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the fuel oil supplier certifications postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The Permittee shall submit a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

3. 15A NCAC 02D .0528: TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

a. The emissions of total reduced sulfur shall not exceed 20 parts per million corrected to 8 percent oxygen from any old design recovery furnace, measured as hydrogen sulfide on a dry gas basis and averaged per discrete contiguous 12-hour time period. [15A NCAC 02D .0528]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 I. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the Recovery Boiler No. 4 (ID No. ES-RB4) for TRS in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. Testing shall be completed and the results submitted within one year of the effective date of Permit No. 03138T37 unless an alternate date is approved by the DAQ. The testing shall be performed once per calendar year, no more than 15 months apart, or as required thereafter. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the results of this or any test is above the limit given in Section 2.1 I. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528.

J. Recovery Boiler No. 5 (ID No. ES-RB5) – Black liquor solids/No. 4 equivalent used oil/ No. 6 fuel oil (nominal 7.39 million pounds of black liquor solids per day average/nominal 557 million Btu per hour heat input rate from firing fuel oil), Controlled by the Electrostatic Precipitator (ID No. CD-5RB-ESP) with natural gas ignitors

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	3.0 pounds per equivalent tons of air dried pulp	15A NCAC 02D .0508
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Particulate Matter	0.10 g/dscm (0.044gr/dscf) corrected 8 percent oxygen	15A NCAC 02D .0524 (40 CFR 60 Subpart BB)
Total Reduced Sulfur (TRS)	5 ppm by volume on a dry basis, corrected to 10 percent oxygen	15A NCAC 02D .0524 (40 CFR 60 Subpart BB)
Visible Emissions	Visible emissions shall not be more than 35 percent opacity	15A NCAC 02D .0524 (40 CFR 60 Subpart BB)
Fuel Oil	3,000,000 gallons per year fuel oil	15A NCAC 02Q. 0317 (NSPS avoidance condition)
Sulfur Dioxide Nitrogen Oxides Carbon Monoxide Volatile Organic Compounds	979.2 pounds per hour 100 ppmv corrected to 8 percent oxygen (24-hour average) 300 ppmv corrected to 8 percent oxygen (24-hour average) 37 pounds per hour	15A NCAC 02D .0530
HAP Emissions	See Permit Condition 2.2 C	15A NCAC 02D .1111 (40 CFR Part 63 Subpart MM)
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100
PSD Pollutants	See Permit Condition 2.2 H	15A NCAC 02D .0530(u) (Use of projected actual emissions)

1. 15A NCAC 02D .0508: PARTICULATES FROM PULP AND PAPER MILLS

a. Emissions from the production of pulp and paper that are discharged from this source into the atmosphere shall not exceed 3.0 pounds of particulate matter per equivalent tons of air dried pulp. [15A NCAC 02D .0508(a)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 J. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the Recovery Boiler No. 5 (ID No. ES-RB5) for total particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. Testing shall be completed and the results submitted within one year of the effective date of Permit No. 03138T37 unless an alternate date is approved by the DAQ. The testing shall be performed once per calendar year, no more than 15 months apart, thereafter. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the results of this or any test are above the limit given in Section 2.1 J. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

Monitoring and Recordkeeping [15A NCAC 02Q .0508(f)]

d. Particulate matter emissions from the Recovery Boiler No. 5 shall be controlled by the Electrostatic Precipitator (ID No. CD-5RB-ESP). To assure compliance with the particulate matter and opacity standards, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 C of this permit.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from the sources shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 J. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. The maximum sulfur content of any No. 4 or 6 fuel oil received and burned in the boiler shall not exceed 2.3 pounds per million Btu (as SO_2). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the fuel oil exceeds this limit.

d. To assure compliance, the Permittee shall monitor the sulfur and heat content of the fuel oil by using fuel oil supplier certification per shipment. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a semi-annual basis and include the following information:
   i. the name of the fuel oil supplier;
   ii. the maximum sulfur content of the fuel oil received during the semi-annual period;
   iii. the average heat content of the fuel received during the semi-annual period;
   iv. the method used to determine the maximum sulfur and heat content of the fuel oil; and
   v. the calculation of pounds SO_2 per million Btu.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the fuel oil supplier certifications postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The Permittee shall submit a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

3. 15A NCAC 02D .0524: NSPS 40 CFR 60 SUBPART BB

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions"[15A NCAC 02D .0524]

Emissions Limitations [15A NCAC 02D .0524]

b. Per 40 CFR Part 60, Subpart BB, emissions from the Recovery Boiler (ID No. ES-RB5) shall not exceed:
   i. 0.10 g/dscm (0.044 gr/dscf) of particulate matter corrected to 8 percent oxygen. [40 CFR Part 60, Subpart 60.282(a)(1)(i)];
   ii. 35 percent opacity [40 CFR Part 60, Subpart 60.282(a)(1)(ii)]; or
   iii. 5 ppm of TRS by volume measured as hydrogen sulfide on a dry basis, corrected to 10 percent oxygen based on a 12-hour average [40 CFR Part 60, Subpart 60.283(a)(2) and 60.284(c)].

Testing [15A NCAC 02Q .0508(f)]

c. Under the provisions of NCGS 143-215.108, the Permittee shall conduct periodic stack testing of the

recovery boiler for filterable particulate matter with the testing specified in Section 2.1 J. 1. c. above. If the results of the testing demonstrate the emissions are equal to or greater than 80 percent of the limit in Section 2.1 J. 3. a. above, the testing frequency in Section 2.1 J. 1. c. shall increase to once every calendar year until the results return to less than 80 percent of the above limit. If any stack test demonstrates emissions are above the limit given in Section 2.1 J. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

Monitoring [15A NCAC 02Q .0508(f)]

d. Particulate matter emissions from the Recovery Boiler No. 5 (ID No. ES-RB5) shall be controlled by the Electrostatic Precipitator (ID No. CD-5RB-ESP). To assure compliance with the particulate matter standard, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 C of this permit.

e. 40 CFR § 60.284(a)(1) - The Permittee shall calibrate, maintain, and operate a continuous monitoring system to monitor and record the opacity of the gases discharged into the atmosphere from any recovery furnace. The span of this system shall be set at 70 percent opacity.

f. 40 CFR § 60.284(a)(2) - The Permittee shall calibrate, maintain, and operate a continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere. These systems shall be located downstream of the control device(s) and the spans of these continuous monitoring system(s) shall be set:
   i. At a TRS concentration of 30 ppm for the TRS continuous monitoring system.
   ii. At 25 percent oxygen for the continuous oxygen monitoring system.

Reporting/ Recordkeeping [15A NCAC 02Q .0508(f)]

g. The Permittee shall follow the requirements of 40 CFR § 60.284(d) for reporting of excess emissions.
h. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

Pollutant	Emission Limits
Sulfur dioxide	979.2 pounds per hour
Nitrogen Oxides	100 ppmv corrected to 8 percent oxygen (24-hour average)
Carbon Monoxide	300 ppmv corrected to 8 percent oxygen (24-hour average)
Volatile Organic Compounds	37 pounds per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.
c. The Permittee shall demonstrate compliance with the NOx and CO emission limit(s) above by testing the Recovery Boiler (ID No. ES-RB5) for NOx and CO accordance with General Condition JJ. Testing shall be completed once every five years. If the results of this or any test are above the limits given in Section 2.1 J. 4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/ Recordkeeping [15A NCAC 02Q .0508(f)]

d. The maximum permitted heat input rate to Recovery Boiler No. 5 from fuel oil shall not exceed 557 million Btu per hour (annual average). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the heat input rate of Recovery Boiler No. 5 from fuel oil exceeds 557 million Btu per hour (annual average).
e. The Permittee shall demonstrate compliance with the heat input rate by using measured fuel heat content (either direct analysis or vendor certifications) and a flow device (i.e., mass flow meters) as

approved by the DAQ. If the results of any calculations or estimation (of heat input) indicate that total heat input to the boiler exceeds the limit given in Section 2.1 J. 4. d. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

f. The Permittee shall maintain heat input calculations, associated measurements, and analytical results.

Reporting [15A NCAC 02Q .0508 (f)]

g. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the actual average heat input from fuel oil fired in Recovery Boiler No. 5 for the previous 12-month period.

5. 15A NCAC 02D .0524: NSPS SUBPART D AVOIDANCE

a. Per 15A NCAC 02Q .0317, in order to avoid applicability of 15A NCAC 02D .0524, NSPS Subpart D, the Recovery Boiler No. 5 shall not exceed a 10 percent annual capacity factor for fuel oil. The Recovery Boiler is limited to a maximum annual fuel usage limit of 3,000,000 gallons per year for fuel oil in order to maintain a fossil fuel capacity factor below 10 percent.

Monitoring/ Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

b. The Permittee shall maintain records of annual fuel oil usage in the No. 5 Recovery Boiler on site The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if the fuel oil usage exceeds this limit, or these records are not maintained.

K. No. 4 Smelt Dissolving Tank (ID No. ES-ST4), Controlled by the Wet Scrubber (ID No. CD-4ST-1)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	0.6 pounds per equivalent tons of air dried pulp	15A NCAC 02D .0508
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Total Reduced Sulfur (TRS)	0.032 pounds per ton of black liquor solids (BLS)	15A NCAC 02D .0528
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100
HAP Emissions	See Permit Condition 2.2 C	15A NCAC 02D .1111 (40 CFR Part 63 Subpart MM)

1. 15A NCAC 02D .0508: PARTICULATES FROM PULP AND PAPER MILLS

a. Emissions from the production of pulp and paper that are discharged from these sources into the atmosphere shall not exceed 0.6 pounds of particulate matter per equivalent tons of air dried pulp. [15A NCAC 02D .0508(a)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 K. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from the No. 4 Smelt Dissolving Tank (ID No. ES-ST4) shall be controlled by the scrubber (ID No. CD-4ST-1). To assure compliance, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 C of this permit. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if this monitoring is not conducted or the records are not kept

Reporting [15A NCAC 02Q .0508(f)]

d. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the No. 4 Smelt Dissolving Tank (ID No. ES-ST4) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 K. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [NCAC 02Q .0508(f)]

c. The monitoring, recordkeeping, and reporting requirements for demonstrating compliance given in section 2.1.K. 1. c. and d. above are deemed sufficient to demonstrate compliance with 15A NCAC 02D .0521.

3. 15A NCAC 02D .0528: TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

a. The emissions of total reduced sulfur shall not exceed 0.032 pounds per ton of black liquor solids (dry

weight) from any smelt dissolving tank. [15A NCAC 02D .0528]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 K. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. To assure compliance, the Permittee shall follow the monitoring, recordkeeping, and reporting requirements per Specific Conditions 2.1 K. 1. c. through d.

L. No. 5 East and West Smelt Dissolving Tanks (ID Nos. ES-ST5E and ES-ST5W) controlled by two Wet Scrubbers (ID No. CD-5EST-1 and CD-5WST-1), installed one each, respectively

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	0.6 pounds per equivalent tons of air dried pulp	15A NCAC 02D .0508
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Particulate Matter	0.1 g per kg black liquor solids (BLS) (0.2 lb/ton BLS) dry weight	15A NCAC 02D .0524 (40 CFR 60 Subpart BB)
Total Reduced Sulfur (TRS)	0.016 g per kg BLS (0.033 lb/ton BLS) as H_2S	15A NCAC 02D .0524 (40 CFR 60 Subpart BB)
Sulfur Dioxide	6.2 pounds per hour	15A NCAC 02D .0530
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100
HAP Emissions	See Permit Condition 2.2 C	15A NCAC 02D .1111 (40 CFR Part 63 Subpart MM)

1. 15A NCAC 02D .0508: PARTICULATES FROM PULP AND PAPER MILLS

a. Emissions from the production of pulp and paper that are discharged from these sources into the atmosphere shall not exceed 0.6 pounds of particulate matter per equivalent tons of air dried pulp. [15A NCAC 02D .0508(a)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 L. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from the No. 5 East and West Smelt Dissolving Tanks (ID Nos. ES-ST5E and ES-ST5W) shall be controlled by the two wet Scrubbers (ID Nos. CD-5EST-1 and CD-5WST-1), installed one each, respectively. To assure compliance, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 C of this permit. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508 if this monitoring is not conducted or the records are not kept.

Reporting [15A NCAC 02Q .0508(f)]

d. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the Smelt Dissolving Tanks (ID Nos. ES-ST5E and ES-ST5W) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 L. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [NCAC 02Q .0508(f)]

c. These emission sources have wet stacks. The monitoring, recordkeeping, and reporting requirements specified in Section 2.2 C of this permit for 40 CFR 63, Subpart MM are deemed sufficient to

demonstrate compliance with 15A NCAC 02D .0521.

3. 15A NCAC 02D .0524: NSPS 40 CFR 60 SUBPART BB

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions"[15A NCAC 02D .0524]

Emissions Limitations [15A NCAC 02D .0524]

b. Per 40 CFR Part 60, Subpart BB, emissions from the Smelt Dissolving Tanks (ID No. ES-ST5E and ES-ST5W) shall not exceed:
   i. 0.1 g particulate matter per kg black liquor solids (BLS) (0.2 lb/ton BLS) dry weight. [40 CFR Part 60, Subpart 60.282(a)(2)]; or
   ii. 0.016 g TRS per kg BLS (0.033 lb/ton BLS) as H_2S [40 CFR Part 60, Subpart 60.283(a)(4)].

Testing [15A NCAC 02Q .0508(f)]

c. The Permittee shall demonstrate compliance with the emission limit(s) above by testing the No. 5 Smelt Tanks (ID Nos. ES-ST5E and ES-ST5W) for particulate matter and TRS accordance with General Condition JJ. Testing shall be completed and the results submitted within one year of the effective date of Permit No. 03138T37 unless an alternate date is approved by the DAQ. The testing shall be performed once per calendar year, no more than 15 months apart or as required thereafter. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the results of this or any test are above the limit given in Section 2.1 L. 3. b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. Particulate matter emissions from the No. 5 East and West Smelt Dissolving Tanks (ID Nos. ES-ST5E and ES-ST5W) shall be controlled by the scrubbers (ID Nos. CD-5EST-1 and CD-5WST-1). To assure compliance, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 C of this permit.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall follow the requirements of 40 CFR § 60.284(d) for reporting of excess emissions.
f. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. The following Best Available Control Technology (BACT) limits shall not be exceeded:

Pollutant	Emission Limits
Sulfur dioxide	6.2 pounds per hour

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1 L. 4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/ Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. To assure compliance, the Permittee shall follow the 40 CFR 63 Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 C of this permit.

M. Lime Slaker No. 3 (ID No. ES-SLK3), Controlled by a Wet Scrubber (ID No. CD-H317); and Lime Slaker No. 6 (ID No. ES-H440), Controlled by a Wet Scrubber (ID No. CD-H259)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	$E = 4.10 \times P^{0.67}$ Where: E = allowable emission rate in pound per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	**Affected Source: ID No. ES-SLK3** 40 percent opacity **Affected Source: ID No. ES-H440** 20 percent opacity	15A NCAC 02D .0521
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from this source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 M. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from Lime Slaker No. 3 (ID No. ES-SLK3) and Lime Slaker No. 6 (ID No. ES-H440) shall be controlled by the wet scrubbers. The Permittee shall install, operate, and maintain a scrubbing liquid flowmeter on the each scrubber. To ensure compliance and the effective operation of the scrubbers, the Permittee shall monitor and record, once per day, scrubbing liquid flow rate. An hourly average may be recorded. The scrubbing liquid flow rate shall be maintained at 35 gpm or above. If the scrubbing liquid flow rate is not at or above 35 gpm, the Permittee shall take appropriate corrective action within the monitoring period to return the flow rate to the appropriate operating range and record the action taken. The Permittee shall be allowed three (3) days of absent observations per semi-annual period. If the emission source(s) is not operating, a record of this fact along with the corresponding date and time shall substitute for the daily observation. The readings shall be recorded in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. To ensure quality, the flow rate gauges or devices shall be calibrated within 18 months of the effective date of Permit No. 03138T37, and annually (not to exceed 14 months from the previous inspection) thereafter.

d. The results of the corrective action activities, discussed above for each scrubber, shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative of DAQ upon request. The logbook shall record the following:
   i. the date and time of each recorded action
   ii. the results of each corrective action;
   iii. the causes for any variance from the allowable operating range for each scrubber; and
   iv. corrective actions taken.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the scrubbers within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities

postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the Lime Slaker No. 3 (ID No. ES-SLK3) shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 90 percent opacity. [15A NCAC 02D .0521 (c)]

b. Visible emissions from the Lime Slaker No. 6 (ID No. ES-H440) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 02Q .0508(f)]

c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 M. 2. a. or b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring [15A NCAC 02Q .0508(f)]

d. These emission sources have wet stacks. The monitoring, recordkeeping, and reporting requirements specified in Section 2.1 M. 1. c. and d. of this permit are deemed sufficient to demonstrate compliance with 02D .0521.

Recordkeeping [15A NCAC 02Q .0508(f)]

e. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each observation and/or test noting those sources with emissions that were observed to be in noncompliance along with any corrective actions taken to reduce visible emissions; and
   iii. the results of any corrective actions performed.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit a summary report of the monitoring activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified

N. Lime Kiln No. 3 (ID No. ES-LK3) No. 6 Fuel Oil /No. 4 Equivalent Used Oil-Fired with Natural Gas Ignitors, Controlled by a Simple Cyclone (ID No. CD-KK-213) and a Venturi Scrubber (ID No. CD-3LK-1)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	0.5 pounds per equivalent tons of air dried pulp	15A NCAC 02D .0508
Sulfur Dioxide	2.3 pound per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Total Reduced Sulfur (TRS)	20 ppm by volume on a dry basis, corrected to 10 percent oxygen	15A NCAC 02D .0528
Nitrogen Oxides	See Permit Condition 2.2 F	15A NCAC 02Q .0317 (15A NCAC 02D .0530 Avoidance)
HAP Emissions	See Permit Condition 2.2 C	15A NCAC 02D .1111 (40 CFR Part 63 Subpart MM)
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100

1. 15A NCAC 02D .0508: PARTICULATES FROM PULP AND PAPER MILLS

a. Emissions from the production of pulp and paper that are discharged from this source into the atmosphere shall not exceed 0.5 pounds of particulate matter per equivalent tons of air dried pulp. [15A NCAC 02D .0508(a)].

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 N. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the Lime Kiln No. 3 (ID No. ES-LK3) for total particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. After the effective date of Permit No. 03138T37, testing shall be completed and the results submitted within 180 days of Lime Kiln No. 3 operating at least 30 consecutive days, unless an alternate date is approved by the DAQ. The testing shall be performed annually thereafter, if the kiln operates at least 30 consecutive days. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the results of this or any test are above the limit given in Section 2.1 N. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

d. Particulate matter emissions from the lime kiln shall be controlled by the cyclone and venturi scrubber. To assure compliance, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 C of this permit.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 N. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. The maximum sulfur content of any No. 4 or 6 fuel oil received and burned in the kiln shall not exceed 2.3 pounds per million Btu (as SO_2). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the fuel oil exceeds this limit.

d. To assure compliance, the Permittee shall monitor the sulfur and heat content of the fuel oil by using fuel oil supplier certification per shipment. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a semi-annual basis and include the following information:
   i. the name of the fuel oil supplier;
   ii. the maximum sulfur content of the fuel oil received during the semi-annual period;
   iii. the average heat content of the fuel received during the semi-annual period;
   iv. the method used to determine the maximum sulfur and heat content of the fuel oil; and
   v. the calculation of pounds SO_2 per million Btu.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the fuel oil supplier certifications postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The Permittee shall submit a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the lime kiln shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 N. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. This emission source has a wet stack. The monitoring, recordkeeping, and reporting requirements specified in Section 2.2 C of this permit for 40 CFR 63, Subpart MM are deemed sufficient to demonstrate compliance with 15A NCAC 02D .0521.

4. 15A NCAC 02D .0528: TOTAL REDUCED SULFUR FROM KRAFT PULP MILLS

a. The emissions of total reduced sulfur from the lime kiln shall not exceed 20 ppm by volume measured as hydrogen sulfide on a dry basis, corrected to 10 percent oxygen. [15A NCAC 02D .0528]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 N. 4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0528.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. To assure compliance, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 C of this permit.

O. Lime Kiln No. 4 (ID No. ES-K4001) No. 6 Fuel Oil / No. 4 Equivalent Used Oil/Natural Gas-Fired, Controlled by the Electrostatic Precipitator (ID No. CD-K4021) and Venturi Scrubber (ID No. CD-4006)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	0.5 pounds per equivalent tons of air dried pulp	15A NCAC 02D .0508
Sulfur Dioxide	2.3 pound per million Btu heat input	15A NCAC 02D .0516
Particulate Matter	0.13gr/dscf corrected 10 percent oxygen when liquid fuel is being fired, and 0.066 gr/dscf corrected to 10 percent oxygen when gaseous fuel is being fired	15A NCAC 02D .0524 (40 CFR 60 Subpart BB)
Total Reduced Sulfur (TRS)	8 ppm by volume on a dry basis, corrected to 10 percent oxygen	15A NCAC 02D .0524 (40 CFR 60 Subpart BB)
Nitrogen Oxides	159 tons of NOx per year, and See Permit Condition 2.2 F	15A NCAC 02Q .0317 (15A NCAC 02D .0530 Avoidance)
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100
HAP Emissions, Visible Emissions	See Permit Condition 2.2 C	15A NCAC 02D .1111 (40 CFR Part 63 Subpart MM)

1. 15A NCAC 02D .0508: PARTICULATES FROM PULP AND PAPER MILLS

a. Emissions from the production of pulp and paper that are discharged from this source into the atmosphere shall not exceed 0.5 pounds of particulate matter per equivalent tons of air dried pulp. [15A NCAC 02D .0508(a)].

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limit given in Section 2.1 O. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

c. Under the provisions of NCGS 143-215.108, the Permittee shall demonstrate compliance with the emission limit(s) above by testing the Lime Kiln No. 4 (ID No. ES-K4001) for total particulate matter in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. Testing shall be completed and the results submitted within one year of the effective date of Permit No. 03138T37 unless an alternate date is approved by the DAQ. The testing shall be performed once per calendar year, no more than 15 months apart, thereafter. If the results of the testing demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the results of this or any test are above the limit given in Section 2.1 O. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0508.

Monitoring/Recordkeeping[15A NCAC 02Q .0508(f)]

d. Particulate matter emissions from the lime kiln shall be controlled by the electrostatic precipitator. To assure compliance, the Permittee shall comply with the 40 CFR 63 Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 C of this permit.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from this source shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 O. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. The maximum sulfur content of any No. 4 or 6 fuel oil received and burned in the kiln shall not exceed 2.3 pounds per million Btu (as SO_2). The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the fuel oil exceeds this limit.

d. To assure compliance, the Permittee shall monitor the sulfur and heat content of the fuel oil by using fuel oil supplier certification per shipment. The results of the fuel oil supplier certifications shall be recorded in a logbook (written or electronic format) on a semi-annual basis and include the following information:
   i. the name of the fuel oil supplier;
   ii. the maximum sulfur content of the fuel oil received during the semi-annual period;
   iii. the average heat content of the fuel received during the semi-annual period;
   iv. the method used to determine the maximum sulfur and heat content of the fuel oil; and
   v. the calculation of pounds SO_2 per million Btu.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516 if the sulfur content of the oil is not monitored and recorded.

e. No Monitoring/Recordkeeping/reporting is required from the firing of natural gas in this source for this regulation.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall submit a summary report of the fuel oil supplier certifications postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. The Permittee shall submit a certified statement signed by the responsible official that the records of fuel oil supplier certification submitted represent all of the fuel oil fired during the period.

3. 15A NCAC 02D .0524: NSPS 40 CFR 60 SUBPART BB

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" as promulgated in 40 CFR Part 60 Subpart BB, including Subpart A "General Provisions."[15A NCAC 02D .0524]

Emissions Limitations [15A NCAC 02D .0524]

b. Per 40 CFR Part 60, Subpart BB, emissions from the Lime Kiln No. 4 shall not exceed:
   i. 0.13 gr/dscf of particulate matter corrected to 10 percent oxygen when burning only liquid fuel or 0.066 gr/dscf corrected to 10 percent oxygen when burning gaseous fuel. [40 CFR Part 60, Subpart 60.282(a)(3)(i)] or
   ii. 8 ppm of TRS by volume on a dry basis, corrected to 10 percent oxygen based on a 12-hour average [40 CFR Part 60, Subpart 60.283(a)(5) and 60.284(c)].

Testing [15A NCAC 02Q .0508(f)]

c. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 O. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524.

Monitoring and Recordkeeping [15A NCAC 02Q .0508(f)]

d. Particulate matter emissions from Lime Kiln No. 4 shall be controlled by the Electrostatic Precipitator. To assure compliance with the PM limit in 2.1 O. 4. b. above, the Permittee shall comply with the 40 CFR 63, Subpart MM monitoring and recordkeeping requirements as specified in Section 2.2 C of this

permit. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0524 if these parameters are not monitored or these records are not maintained.

e. 40 CFR § 60.284(a)(2) – The Permittee shall calibrate, maintain, and operate a continuous monitoring system to monitor and record the concentration of TRS emissions on a dry basis and the percent of oxygen by volume on a dry basis in the gases discharged into the atmosphere These systems shall be located downstream of the control device(s) and the spans of these continuous monitoring system(s) shall be set:
   i. At a TRS concentration of 30 ppm for the TRS continuous monitoring system.
   ii. At 25 percent oxygen for the continuous oxygen monitoring system.

Reporting [15A NCAC 02Q .0508(f)]

f. The Permittee shall follow the requirements of 40 CFR § 60.284(d) for reporting of excess emissions.
g. The Permittee shall submit a summary report of the monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

4. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530 for major sources and major modifications, Lime Kiln No. 4 shall discharge into the atmosphere less than 159 tons of NOx per consecutive 12 month period.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.1 O. 4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. To ensure compliance, the Permittee shall record and maintain records of monthly NOx emissions from Lime Kiln No. 4 and calculate rolling 12-month total NOx emissions. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the monthly NOx emissions are not recorded.

Reporting [15A NCAC 02Q .0508(f)]

d. The Permittee shall submit a summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities and postmarked on or before January 30 of each calendar year for the preceding 6-month period between July and December, and July 30 of each calendar year for the preceding 6-month period between January and June. The report shall contain the following:
   i. The monthly NOx emissions for the previous 17 months. The total NOx emissions must be calculated for each of the 12-month periods over the previous 17-months; and
   ii. All instances of deviations from the requirements of this permit must be clearly identified.

P. Lime Handling Systems Consisting of:

Reburnt Lime Handling System (enclosed belt conveyor and bucket elevator) (ID No. ES-LH-Reburnt) and Reburnt Lime Silos No. 1 and No. 2 (ID Nos. ES-RLS-1 and ES-RLS2) controlled by a bagfilter (ID No. CD-H367); and

Fresh Lime Silo (ID No. ES-H-84) controlled by a bagfilter (ID No. CD-H85)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	$E = 4.10 \times P^{0.67}$ Where: E = allowable emission rate in pound per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 P. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from these sources shall be controlled by the bagfilters. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly visual inspection (for each calendar month, not to exceed 6 weeks from the previous inspection) of the system ductwork and material collection unit for leaks; and
   ii. an annual internal inspection (within 18 months of the effective date of Permit No. 03138T37, and not to exceed 14 months from the previous inspection thereafter) of the bagfilters' structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bagfilters are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each inspection;
   iii. the results of any maintenance performed on the bagfilter(s); and
   iv. any variance from manufacturer's recommendations, if any, and corrections made.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the bagfilters within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 P. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring [15A NCAC 02Q .0508(f)]

c. To assure compliance, once a month the Permittee shall observe the emission points of the sources for any visible emissions above normal. If the emission source(s) are not operating, a record of this fact along with the corresponding date and time shall substitute for the monthly observation. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of Permit No. 03138T37. If visible emissions from any source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 P. 2. a. above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521.

Recordkeeping [15A NCAC 02Q .0508(f)]

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each observation and/or test noting those sources with emissions that were observed to be above normal along with any corrective actions taken to reduce visible emissions; and
   iii. the results of any corrective actions performed.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

Q. Paper Making Starch Silos Consisting of:

Starch Silo (ID No. ES-JA301) controlled by a bagfilter (ID No. CD-DF-1);
Starch Silo (ID No. ES-JA306) controlled by a bagfilter (ID No. CD-DF-2);
Starch Silo (ID No. ES-JA307) controlled by a bagfilter (ID No. CD-DF-3); and
Starch Silo (ID No. ES-JA322) controlled by a bagfilter (ID No. CD-DF-4)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	$E = 4.10 \times P^{0.67}$ Where: E = allowable emission rate in pound per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 Q. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from these sources shall be controlled by the bagfilters. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly visual inspection (for each calendar month, not to exceed 6 weeks from the previous inspection) of the system ductwork and material collection unit for leaks; and
   ii. an annual internal inspection (within 18 months of the effective date of Permit No. 03138T37, and not to exceed 14 months from the previous inspection thereafter) of the bagfilters' structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bagfilters are not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each inspection;
   iii. the results of any maintenance performed on the bagfilter(s); and
   iv. any variance from manufacturer's recommendations, if any, and corrections made.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the bagfilters within 30 days of a written request by the DAQ.

f. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period

between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 Q. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring [15A NCAC 02Q .0508(f)]

c. To assure compliance, once a month the Permittee shall observe the emission points of the sources for any visible emissions above normal. If the emission source(s) are not operating, a record of this fact along with the corresponding date and time shall substitute for the monthly observation. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of Permit No. 03138T37. If visible emissions from any source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 Q. 2. a. above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521.

Recordkeeping [15A NCAC 02Q .0508(f)]

d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each observation and/or test noting those sources with emissions that were observed to be above normal along with any corrective actions taken to reduce visible emissions; and
   iii. the results of any corrective actions performed.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

R. Pulp Dryer (ID No. ES-PD), uncontrolled

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100

S. Water Treatment Filter Plant Fresh Lime Bin (ID No. ES-V-139) controlled by a bagfilter (ID No. CD-V-142)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	$E = 4.10 \times P^{0.67}$ Where: E = allowable emission rate in pound per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Visible Emissions	20 percent opacity	15A NCAC 02D .0521

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from these sources shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 S. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. Particulate matter emissions from the source shall be controlled by the bagfilter. To assure compliance, the Permittee shall perform inspections and maintenance as recommended by the manufacturer. In addition to the manufacturer's inspection and maintenance recommendations, or if there are no manufacturer's inspection and maintenance recommendations, as a minimum, the inspection and maintenance requirement shall include the following:
   i. a monthly visual inspection (for each calendar month, not to exceed 6 weeks from the previous inspection) of the system ductwork and material collection unit for leaks; and
   ii. an annual internal inspection (within 18 months of the effective date of Permit No. 03138T37, and not to exceed 14 months from the previous inspection thereafter) of the bagfilter's structural integrity.

   The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515 if the ductwork and bagfilter is not inspected and maintained.

d. The results of inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each inspection;
   iii. the results of any maintenance performed on the bagfilter; and
   iv. any variance from manufacturer's recommendations, if any, and corrections made.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit the results of any maintenance performed on the bagfilter within 30 days of a written request by the DAQ.
f. The Permittee shall submit a summary report of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from these sources shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521(d)]

Testing [15A NCAC 02Q .0508(f)]
b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 S. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring [15A NCAC 02Q .0508(f)]
c. To assure compliance, once a month the Permittee shall observe the emission points of the sources for any visible emissions above normal. If the emission source(s) are not operating, a record of this fact along with the corresponding date and time shall substitute for the monthly observation. The Permittee shall establish "normal" for the source in the first 30 days following the effective date of Permit No. 03138T37. If visible emissions from any source are observed to be above normal, the Permittee shall either:
   i. take appropriate action to correct the above-normal emissions within the monitoring period and record the action taken as provided in the recordkeeping requirements below, or
   ii. demonstrate that the percent opacity from the emission points of the emission source in accordance with 15A NCAC 02D .2610 (Method 9) for 12 minutes is below the limit given in Section 2.1 S. 2. a. above.

   If the above-normal emissions are not corrected per (i) above or if the demonstration in (ii) above cannot be made, the Permittee shall be deemed to be in noncompliance with 15A NCAC 02D .0521.

Recordkeeping [15A NCAC 02Q .0508(f)]
d. The results of the monitoring shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:
   i. the date and time of each recorded action;
   ii. the results of each observation and/or test noting those sources with emissions that were observed to be above normal along with any corrective actions taken to reduce visible emissions; and
   iii. the results of any corrective actions performed.

Reporting [15A NCAC 02Q .0508(f)]
e. The Permittee shall submit a summary report of the monitoring activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified.

T. Temporary Package Boilers (ID Nos. ES-PKB-1 and ES-PKB-2) - No. 2 fuel oil/natural gas-fired, heat input between 10 and 100 MMBtu/hr each

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	0.16 lb/MMBtu	15A NCAC 02D .0503
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Sulfur Dioxide	2.3 lb/MMBtu	15A NCAC 02D .0516
PSD compounds	See Permit Condition 2.1 T. 4.	15A NCAC 02Q .0317 15A NCAC 02D .0530 avoidance
Fuel Oil	See Permit Condition 2.1 T. 5.	15A NCAC 02Q .0317 (15A NCAC 02D .0524 Avoidance)
Days of Operation	See Permit Condition 2.1 T. 6.	15A NCAC 02Q .0317 (15A NCAC 02D .1109 Avoidance)
NC Toxics	See Permit Condition 2.2 E - STATE-ONLY REQUIREMENT	15A NCAC 02D .1100

1. 15A NCAC 02D .0503: PARTICULATES FROM FUEL BURNING INDIRECT HEAT EXCHANGERS

a. Emissions of particulate matter from the combustion of natural gas/No. 2 fuel oil that are discharged from these sources into the atmosphere shall not exceed 0.16 pound per million Btu heat input. [15A NCAC 02D .0503(c)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 T. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0503.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring/recordkeeping/reporting is required to demonstrate compliance with this standard for combustion of natural gas or No. 2 fuel oil by these sources

2. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from the sources (ID Nos. ES-PKB-1 and ES-PKB-2) shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (d)]

Testing [15A NCAC 02Q .0508(f)]

b. If emission testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 T. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required for visible emissions when firing natural gas or No. 2 fuel oil in the sources (ID Nos. ES-PKB-1 and ES-PKB-2).

3. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

Testing [15A NCAC 02D .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.

If the results of this test are above the limit given in Section 2.1 T. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required for the combustion of No. 2 fuel oil or natural gas in these sources.

4. 15A NCAC 02Q .0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530, emissions from the boilers (ID Nos. ES-PKB-1 and ES-PKB-2) shall be less than the following per consecutive 12-month period: [15A NCAC 02D .0530]

Pollutant	Emission Limit (tons)
particulate (TSP)	33.34
PM10	23.34
sulfur dioxide	134.11
volatile organic compounds	40.85
carbon monoxide	115.07
nitrogen oxides	201.22
fluorides	3.11
sulfuric acid mist	21.68
lead	0.61

Testing [15A NCAC 02Q .0508(f)]

b. If emission testing is required, the Permittee shall perform such testing in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 T. 4. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/Recordkeeping [15A NCAC 02Q .0508(f)]

c. The Permittee shall monitor and record on a monthly basis the PSD compound emissions, the amount of fuel oil and natural gas burned, and the sulfur content of fuel oil including certification of the fuel, for each boiler in a logbook (written or in electronic format).

Reporting [15A NCAC 02Q .0508(f)]

d. The Permittee shall submit a semi-annual summary report, acceptable to the Regional Air Quality Supervisor, of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
   i. The monthly PSD compound emissions for the previous 17 months from the temporary package boilers (ID Nos. ES-PKB-1 and ES-PKB-2). The total emissions must be calculated for each of the 12-month periods over the previous 17 months;
   ii. The monthly quantities of natural gas and No. 2 fuel oil consumed in these units for the previous 17 months; and
   iii. The average sulfur content of the No. 2 fuel oil.

All instances of deviations from the requirements of this permit must be clearly identified.

5. 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .0524: NEW SOURCE PERFORMANCE STANDARDS

a. In order to avoid the applicability of 15A NCAC 02D .0524, the boilers (ID Nos. ES-PKB-1 and ES-PKB-2) shall combust distillate oil with a potential SO_2 emission rate no greater than 0.060 lb/MMBtu,

be capable of being moved from one location to another, and remain onsite for no longer than 180 consecutive days as defined in § 60.41c. The Permittee shall notify the Regional Office in writing within 10 days of exceeding the 180 day period.

6. 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .1109: CAA § 112(j); Case-by-Case MACT for Boilers & Process Heaters

a. In order to avoid the applicability of 15A NCAC 02D .1109, the boilers (ID Nos. ES-PKB-1 and ES-PKB-2) shall be temporary units capable of being moved from one location to another and remain onsite for no longer than 180 consecutive days as defined in § 60.7575. The Permittee shall notify the Regional Office in writing within 10 days of exceeding the 180 day period.

U. Nos. 15 and 18 Paper Machines with natural gas-fired IR Dryers (ID Nos. ES-J-009 and ES-JJ-030), uncontrolled

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Particulate Matter	$E = 4.10 \times P^{0.67}$ Where: E = allowable emission rate in pound per hour P = process weight rate in tons per hour	15A NCAC 02D .0515
Sulfur Dioxide	2.3 pounds per million Btu heat input.	15A NCAC 02D .0516
Visible Emissions	40 percent opacity	15A NCAC 02D .0521
NC Toxics	See Permit Condition 2.2 E – STATE-ONLY REQUIREMENT	15A NCAC 02D .1100
PSD Pollutants	See Permit Condition 2.2 H	15A NCAC 02D .0530(u) (Use of projected actual emissions)

1. 15A NCAC 02D .0515: PARTICULATES FROM MISCELLANEOUS INDUSTRIAL PROCESSES

a. Emissions of particulate matter from each source shall not exceed an allowable emission rate as calculated by the following equation: [15A NCAC 02D .0515(a)]

$E = 4.10 \times P^{0.67}$ Where E = allowable emission rate in pounds per hour
P = process weight in tons per hour

Liquid and gaseous fuels and combustion air are not considered as part of the process weight.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 U. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0515.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required for these sources.

2. 15A NCAC 02D .0516: SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from these sources shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516]

Testing [15A NCAC 02D .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 U. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required for the combustion of natural gas in these sources.

3. 15A NCAC 02D .0521: CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from each source shall not be more than 40 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 40 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521 (c)]

Testing [15A NCAC 02D .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 U. 3. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required for these sources.

V. Emergency Engines, uncontrolled: No. 3 Lime Kiln gasoline-fired auxiliary engine (124 hp) (ID No. ES-EE1); No. 4 Lime Kiln diesel-fired auxiliary engine (377 hp) (ID No. ES-EE2); and Diesel-fired emergency fire pump (290 hp) (ID No. ES-EE3)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Sulfur Dioxide	2.3 pounds per million Btu heat input	15A NCAC 02D .0516
Visible Emissions	20 percent opacity	15A NCAC 02D .0521
Hazardous Air Pollutants	Work practice standards. The initial compliance date for these sources is **May 3, 2013** (compression ignition engines, ID Nos. ES-EE2 and ES-EE3) or **October 19, 2013** (spark ignition engines, ID No. ES-EE1).	15A NCAC 02D .1111 (40 CFR 63, Subpart ZZZZ)
NC Toxics	See Permit Condition 2.2 E – STATE-ONLY REQUIREMENT	15A NCAC 02D .1100

1. 15A NCAC 02D .0516 SULFUR DIOXIDE EMISSIONS FROM COMBUSTION SOURCES

a. Emissions of sulfur dioxide from each engine shall not exceed 2.3 pounds per million Btu heat input. Sulfur dioxide formed by the combustion of sulfur in fuels, wastes, ores, and other substances shall be included when determining compliance with this standard. [15A NCAC 02D .0516(a)]

Testing [15A NCAC 02Q 0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 V. 1. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0516.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required for sulfur dioxide emissions from the firing of diesel fuel (ID Nos. ES-EE2 and ES-EE3) or gasoline (ID No. ES-EE1) in the respective engines.

2. 15A NCAC 02D .0521 CONTROL OF VISIBLE EMISSIONS

a. Visible emissions from each of these engines shall not be more than 20 percent opacity when averaged over a six-minute period. However, six-minute averaging periods may exceed 20 percent not more than once in any hour and not more than four times in any 24-hour period. In no event shall the six-minute average exceed 87 percent opacity. [15A NCAC 02D .0521(d)]

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limit given in Section 2.1 V. 2. a. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0521.

Monitoring/Recordkeeping/Reporting [15A NCAC 02Q .0508(f)]

c. No monitoring, recordkeeping, or reporting is required for visible emissions from the firing of diesel fuel (ID Nos. ES-EE2 and ES-EE3) or gasoline (ID No. ES-EE1) in the respective engines.

3. 15A NCAC 02D .1111: MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY

a. For these existing, less than 500 Hp, emergency engines located at a major source of hazardous air pollutants, the Permittee shall demonstrate compliance by **May 3, 2013** (compression ignition engines, ID Nos. ES-EE2 and ES-EE3) or **October 19, 2013** (spark ignition engines, ID No. ES-EE1) with all applicable requirement of 15A NCAC 02D .1111 "Maximum Achievable Control Technology" and 40 CFR 63 Subpart ZZZZ "National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE)."

Emission Limitations [40 CFR 63.6602, Table 2c]

b. The Permittee must comply with the following requirements:
   i. change oil and filter every 500 hours of operation or annually, whichever comes first;
   ii. inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and
   iii. inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and

replace as necessary.

The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Monitoring, Installation, Collection, Operation and Maintenance Requirements [40 CFR 63.6625(e), (f), (h), (i) or (j)]

c. The Permittee must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

d. The Permittee must install a non-resettable hour meter if one is not already installed.

e. The Permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Table 2c to Subpart ZZZZ apply.

f. *(Compression ignition engines only)* The Permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Table 2c to Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c to Subpart ZZZZ. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the Permittee is not required to change the oil. If any of the limits are exceeded, the Permittee must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the Permittee must change the oil within 2 days or before commencing operation, whichever is later. The Permittee must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

g. *(Spark ignition engines only)* The Permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Table 2c to Subpart ZZZZ. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c to Subpart ZZZZ. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

h. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Continuous Compliance [40 CFR 63.6605 and 63.6640]

i. The Permittee must operate the emergency stationary RICE according to the following requirements. Any operation other than emergency operation, maintenance and testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (i)(i - iii) below, is prohibited. If you do not operate the engine according to the requirements in paragraphs (i)(i - iii) below, the engine will not be considered an emergency engine under Subpart ZZZZ and will need to meet all requirements for non-emergency engines.

   i. There is no time limit on the use of emergency stationary RICE in emergency situations.

   ii. The Permittee may operate the emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the

engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The Permittee may petition the Administrator, EPA Region IV for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the Permittee maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

iii. The Permittee may operate the emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that the Permittee may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph, as long as the power provided by the financial arrangement is limited to emergency power.

j. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these requirements are not met.

Recordkeeping Requirements [40 CFR 63.6655, except 63.6655(c)]

k. The Permittee must keep the following records:
   i. A copy of each notification and report that was submitted to comply with Subpart ZZZZ, including all documentation supporting any Initial Notification or Notification of Compliance Status that was submitted, according to the requirement in 40 CFR 63.10(b)(2)(xiv).
   ii. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) and monitoring equipment.
   iii. Records of all required maintenance performed on the monitoring equipment.
   iv. Records of actions taken during periods of malfunction to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and monitoring equipment to its normal or usual manner of operation.

l. The Permittee must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the stationary RICE was operated and maintained according to the maintenance plan.

m. The Permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The Permittee must document how many hours are spent for emergency operation; including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engines are used for demand response operation, the Permittee must keep records of the notification of the emergency situation, and the time the engine was operated as part of demand response.

n. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not maintained.

Reporting Requirements [Table 2c (Footnote 1) to Subpart ZZZZ of 40 CFR 63, 15A NCAC 02Q .0508(f)]

o. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2c of Subpart ZZZZ, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

p. The Permittee shall submit a summary report of monitoring and recordkeeping requirements postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit shall be clearly identified.
q. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these reports are not submitted.

2.2- Multiple Emission Source(s) Specific Limitations and Conditions

A. 40 CFR 63, Subpart S - MACT Affected Sources:

Source ID No.	Source Description	Control ID No	Control Description
Bleaching System Sources			
ES-BP1	Bleach Plant No. 1	CD BP-SCRB	Wet scrubber with scrubber injection (via closed-vent collection system)
ES-BP2	Bleach Plant No. 2		
ES-BP3	Bleach Plant No. 3		

Source ID No.	Source Description	Control ID No	Control Description
LVHC System Sources			
ES-WELL4	No. 4 Hotwell - 40 CFR Part 63.443(a)(1)(i)	ES-PB2	No. 2 Power Boiler via LVHC NCG Collection System
ES-EVAP5	No. 5 Evaporator System - 40 CFR Part 63.443(a)(1)(i)	or	or
ES-EVAP6	No. 6 Evaporator System - 40 CFR Part 63.443(a)(1)(i)	ES-PB5	No. 5 Power Boiler via LVHC NCG Collection System
ES-CSFT1	No. 1 Condensate Steam Stripper Feed Tank - 40 CFR 63.443(a)(1)(i)		
ES-ZG008	No. 1 Condensate Steam Stripper Off Gases (SOG) 40CFR 63.443(a)(1)(i)		
ES-CSFT6	No. 6 Condensate Steam Stripper Feed Tank - 40 CFR 63.443(a)(1)(i)		
ES-ZG0081	No. 6 Condensate Steam SOG (No. 6 Set) - 40 CFR Part 63.443(a)(1)(i)		
ES-LUND	Lundberg Turpentine System - 40 CFR Part 63.443(a)(1)(i)		
ES-GOSL	Goslin Turpentine System - 40 CFR Part 63.443(a)(1)(i)		
ES-TCS	Turpentine Recovery/Condensing Systems - 40 CFR Part 63.443(a)(1)(i)		
ES-K1	K1 Fiber Line - 40 CFR Part 63.443(a)(1)(i)		
ES-LBD	Large Batch Digester System - 40 CFR Part 63.443(a)(1)(i)		
ES-SBD	Small Batch Digester System - 40 CFR Part 63.443(a)(1)(i)		

A. 40 CFR 63, Subpart S – MACT Affected Sources (continued):

[Sources not covered by 40 CFR 63.447 Clean Condensate Alternative]:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
HVLC System Sources*			
All facility knotters	Knotter system**	NA	NA
All facility screens	Screen systems**		
All facility deckers	Deckers***		

* High volume, low concentration or HVLC system means the collection of equipment including the pulp washing and any other equipment serving the same function as those previously listed. See 2.2 B for alternative control requirements for HVLC sources under the Clean Condensate Alternative approach.

** These sources are not subject to the HVLC control requirements under 63.443(c) and (d) as total HAP emissions from the knotter and screen systems (measured as methanol) are less than 0.3 lbs per ton of oven dry pulp.

*** These sources are not subject to the HVLC control requirements under 63.443(c) and (d) as the deckers use process water with a total HAP concentration less than 400 ppmw (measured as methanol).

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
Pulping Condensates Collection System Sources			
ES-WELL4 [Stream ID No. COND-1]	No. 4 Hotwell - 40 CFR Part 63.446(b)(3)	ES-ZG008 or ES-ZG0081 ES-PB2 or ES-PB5	No. 1 condensate stripper or No. 6 condensate stripper Routed to: No. 2 Power Boiler via LVHC NCG Collection System or No. 5 Power Boiler via LVHC NCG Collection System
ES-EVAP5 [Stream ID No. COND-2]	No. 5 Evaporator Hotwell - 40 CFR Part 63.446(b)(3)		
ES-EVAP6 [Stream ID No. COND-3]	No. 6 Evaporator Hotwell - 40 CFR Part 63.446(b)(3)		
[Stream ID No. COND-4]	Batch Digester BHA Primary and Secondary Condenser Condensate 40 CFR Part 63.446(b)(1)		
[Stream ID No. COND-5]	LVHC Low Point Drain Condensate 40 CFR Part 63.446(b)(5)		
[Stream ID No. COND-6]	Batch and Continuous Turpentine Underflow		
[Stream ID No. COND-7]	Kamyr First Pass Condenser Condensate		

A. 40 CFR 63, Subpart S - MACT Affected Sources (continued):

The following table provides a summary of limits and standards for the emission source(s) describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	**Bleaching System** 10 ppmv total chlorinated HAP or 99 percent reduction by weight **LVHC System** Route system vents to No. 2 or No. 5 Power Boiler **HVLC System** See 2.2 B **Pulping Condensate Collection** Collect a minimum 11.1 pounds per ton ODP followed by treatment in the No. 1 Condensate Stripper (ID No. ES-ZG008) or the No. 6 Condensate Stripper (ID No. ES-ZG0081) meeting: 92 percent HAP removal, or 10.2 pounds per ton ODP removal	15 A NCAC 02D .1111 (40 CFR 63 Subpart S - MACT)

1. 15A NCAC 02D .1111: MACT 40 CFR 63 SUBPART S

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR Part 63 Subpart S, including Subpart A "General Provisions" as defined per 63.440(g) and indicated per Table 1 of Subpart S. These emission standards shall apply at all times except as otherwise specified in 40 CFR Part 63, Subpart S. Terms used throughout this section are defined in the Clean Air Act as amended in 1990 and in 40 CFR 63.2 and 63.441. Units and abbreviations are defined in 40 CFR 63.3 [15A NCAC 02D .1111]

Emission Limitations [15A NCAC 02D .1111]

Standards for the Bleaching System [40 CFR 63.445]

b. The Permittee shall meet the following control requirements for bleaching systems using chlorinated compounds [40 CFR 63, Subpart 63.445]:
   i. The equipment at each bleaching stage of the bleaching systems, where chlorinated compounds are introduced shall be enclosed and vented into a closed vent system meeting the requirements specified in 40 CFR 63.450 and introduced into the Bleach Plant Scrubber (ID No. CD-BP-SCRB);
   ii. The scrubber (ID No. CD BP-SCRB) shall achieve a treatment device outlet concentration of 10 ppmv or less of total chlorinated HAP or achieve a 99 percent reduction by weight; and
   iii. The Permittee shall not use hypochlorite or chlorine for bleaching in the bleaching systems listed above.

Standards for the LVHC pulping systems at kraft processes [40 CFR 63.443(a)]

c. The Permittee shall meet the following control requirements for the total HAP emissions from the LVHC system [40 CFR 63.443]:
   i. Each LVHC system component shall be enclosed and vented into a closed vent system meeting the requirements of 40 CFR 63.450, and routed to:
      1. The No. 2 Power Boiler (ID No. ES-PB2) [heat input capacity greater than 150 mmBtu/hr] by introducing the HAP emission stream with the combustion air/primary fuel/into the flame

zone; or

2. The No. 5 Power Boiler (ID No. ES-PB5) [heat input capacity greater than 150 mmBtu/hr] by introducing the HAP emission stream with the combustion air/primary fuel/into the flame zone.

d. Periods of excess emissions reported under Sec. 63.455 shall not be a violation of Sec. 63.443 (c) and (d) provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed the following levels:
   i. One percent for control devices used to reduce the total HAP emissions from the LVHC system; and
   ii. Four percent for control devices used to reduce the total HAP emissions from both the LVHC and HVLC systems.

Standards for Kraft pulping process condensates [40 CFR 63.446]

e. The pulping process condensates as identified per 40 CFR 63.446(b) shall be conveyed in a closed collection system that is designed and operated to meet the following requirements:
   i. Each closed collection system shall meet the individual drain system requirements specified in 40 CFR 63.960, 63.961, and 63.962, except for closed vent systems;
   ii. Closed vent systems shall be designed and operated in accordance with 40 CFR 63.450;
   iii. The process condensate streams collected in total shall contain a minimum of 11.1 pounds of HAP per ton of oven dried pulp produced (based on a 15-day rolling average, as requested by the Permittee);
   iv. Any condensate tank shall meet the requirements per 40 CFR 63.446(d)(2); and
   v. The pulping process condensates collected shall be treated by the No. 1 Condensate Stripper (ID No. ES-ZG008) or the No. 6 Condensate Stripper (ID No. ES-ZG0081) which shall:
      1. Reduce or destroy the total HAPs by at least 92 percent or more by weight; or
      2. Remove a minimum of 10.2 pounds per ton of oven dried pulp (ODP); and
   vi. For each steam stripper system used to comply with the requirements specified in paragraph 63.446(e)(3), periods of excess emissions reported under Sec. 63.455 shall not be a violation of paragraphs 63.446(d), (e), and (f) provided that the time of excess emissions divided by the total process operating time in a semi-annual reporting period does not exceed 10 percent

Testing [15A NCAC 02Q .0508(f), 15A NCAC 02D .1111]

f. If emissions testing is required, the testing shall be performed in accordance General Condition JJ. If the results of this test are above the limits given in Section 2.2 A. 1. b. through e. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

Monitoring for the Bleaching System Scrubber [15A NCAC 02Q .0508(f), 40 CFR 63.453]

g. The Permittee shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS), on the Bleach Plant Scrubber (ID No. CD-BP-SCRB). The CMS shall include a continuous recorder. The CMS shall be operated to ensure the following operational parameters are maintained [40 CFR 63, Subpart 63.453]:
   i. The minimum pH in the scrubber return line to the recirculation tank shall be 11.8 (3 hour average);
   ii. The scrubber inlet vent gas fan operating status of "on" ("on" or "off" based on motor load); and
   iii. The minimum scrubber liquid recirculation rate shall be 130 gallons per minute (3 hour average).

If any monitoring parameter values are exceeded or if the monitoring procedures are not followed, the Permittee shall be deemed in noncompliance with 02D .1111.

Monitoring for the LVHC pulping systems Control Devices [15A NCAC 02Q .0508(f), 40 CFR

63.453]

h. No control device parameter monitoring is required for pulping vent systems routed to the No. 2 Power Boiler (ID No. ES-PB2) or the No. 5 Power Boiler (ID No. ES-PB5). [40 CFR 63.453]

Monitoring for the pulping process condensates [15A NCAC 02Q .0508(f), 40 CFR 63.453

i. **Condensate Collection:**
The Permittee shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS) to monitor condensate stream collection. The CMS shall include a continuous recorder. The CMS shall be operated to ensure that the minimum of 11.1 pounds of HAP per ton of oven dried pulp produced (based on a 15-day rolling average, as requested by the Permittee) is collected. The HAP content for each stream shall be validated on a weekly basis by performing daily stripper feed tank sampling (excluding weekends and holidays). [40 CFR 60, Subpart 63.453].
If any monitoring parameter demonstrates collection less than 11.1 pounds per oven dried pulp, the Permittee shall be deemed in noncompliance with 02D .1111.
The Permittee can provide long term sampling data to the agency in order to establish an emission factor for methanol that would allow for revising the monitoring frequency from weekly to monthly. Upon Department approval of Permittee's request, validation frequency may be increased from weekly to monthly.

Monitoring for the pulping process condensates [15A NCAC 02Q .0508(f), 40 CFR 63.453]

j. **No. 1 Condensate Stripper (ID No. ES-ZG008) and the No. 6 Condensate Stripper (ID No. ES-ZG0081):**
The Permittee shall install, calibrate, certify, operate, and maintain according to the manufacturer's specifications, a continuous monitoring system (CMS) on the No. 1 Condensate Stripper (ID No. ES-ZG008) and the No. 6 Condensate Stripper (ID No. ES-ZG0081). The CMS shall include a continuous recorder. The CMS shall be operated to ensure the following operational parameters are maintained. [40 CFR 63.453]

The Effective Steam Ratio (ESR) shall be maintained above 17 percent for the No. 1 Condensate Stripper (ID No. ES-ZG008) and above 16.5 percent for the No. 6 Condensate Stripper (ID No. ES-ZG0081) as defined by the following equation:

ESR (%) = (((FS (KPPH) * 1000)-(CF (GPM) * 8.34 lb/gal * 60 mins/hr * (T1(degrees F) - T2(degrees F))/1000))/(CF (GPM) * 8.34 lb/gal*60)) * 100

where:
ESR = Effective Steam Ratio (percent)
FS = Feed Steam in KPPH (thousand pounds per hour)
CF = Condensate Flow in GPM (gallons per minute)
T1 = the stripper bottom temperature in degrees F, and
T2 = the condensate feed temperature in degrees F

If any monitoring parameter values are exceeded, the Permittee shall be deemed in noncompliance with 02D .1111.

Monitoring for Enclosures and Closed Vent Systems [15A NCAC 02Q .0508(f), 40 CFR 63.453]

k. Each enclosure and closed vent system shall meet the monitoring requirements of 40 CFR 63.453.

Recordkeeping/Reporting [40 CFR 63.454; 63.455]

l. The results of the CMS monitoring, Enclosure System monitoring, and Closed Vent System monitoring shall be maintained (in written or electronic format) per the requirements of 40 CFR 63.454 and 63.455.

m. When actions taken during a startup, shutdown, or malfunction (including an action taken to correct a malfunction) are not consistent with the procedures specified in the facility's Startup Shutdown Malfunction (SSM) Plan, the Permittee shall record the actions taken for that event for inclusion in the semiannual SSM report.

n. When actions taken by the Permittee during a startup, shutdown, or malfunction (including actions taken to correct a malfunction) are consistent with the procedures specified in the facility's SSM plan,

the Permittee shall keep records for that event that demonstrate that the procedures specified in the SSM plan were followed. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111 if these records are not maintained.

Reporting [15A NCAC 02Q .0508(f), 40 CFR 63.454; 63.455]

o. Permittee shall submit a summary report of excess emissions postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. When no exceedances of an operating parameter have occurred, such information shall be included in the report.

p. The Permittee shall comply with the reporting requirements of 40 CFR 63, Subpart A as specified in Table 1 of 40 CFR 63.440.

2. 15A NCAC 02D .1109 CAA 112(j); CASE-BY-CASE MACT FOR START-UP, SHUTDOWN, OR MALFUNCTION (SSM) CONDITIONS IN 40 CFR PART 63, SUBPART S REQUIREMENTS

Bleach Plants No. 1, No. 2 and No. 3

Startup

a. For the bleaching systems ES-BP1 (Bleach Plant No. 1), ES-BP2 (Bleach Plant No. 2) and ES-BP3 (Bleach Plant No. 3), startup begins when pulp stock enters any of the three bleach plants tower for chlorine dioxide application. Startup ends when all bleach plant towers are operating steady-state and normal operating conditions have been attained as determined by pulp brightness and D2 tower residual chlorine dioxide. Operators will operate the bleach plant scrubber (CD-BP-SCRB) with scrubber fan status, scrubber liquid recirculation rate, and the pH from the scrubber return line to the recirculation tank meeting the specifications for normal operations as defined in Section 2.2 A. 1. g. PRIOR to the introduction of stock to the bleach plant. The period of startup for the bleach plants managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63 Subpart S or 15A NCAC 02D .1111.

Shutdown

b. For the bleaching systems ES-BP1 (Bleach Plant No. 1), ES-BP2 (Bleach Plant No. 2) and ES-BP3 (Bleach Plant No. 3), shutdown begins when pulp stock is no longer fed to any D-stage tower. Shutdown ends when chlorine dioxide flow to all of the towers is stopped and stock levels are brought to desired levels. During shutdown, operators will operate the bleach plant scrubber (CD-BP-SCRB) with scrubber fan status, scrubber liquid recirculation rate and scrubber effluent pH meeting the specifications for normal operations as defined in Section 2.2 A. 1. g. The period of shutdown for the bleach plants managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63 Subpart S or 15A NCAC 02D .1111.

Malfunction

c. In the event of malfunction of the bleach plant scrubber (CD-BP-SCRB), the following work practice will be followed:

1. Upon knowledge of the parameter excursion, operators will take immediate steps to identify the root cause of the parameter excursion;
2. If the root cause of the parameter excursion cannot be determined within 2 operating hours from initial knowledge of the parameter excursion, operators will initiate an orderly shutdown of all three bleach plants. If the projected time to correct the parameter excursion exceeds 2 hours, operators will initiate an orderly shutdown of all three bleach plants. If required, the bleach plant will commence an orderly shutdown to a zero operating state defined as pulp washers being flushed and cleared of stock and application of chlorine dioxide to the bleach towers stopped. Stock may be held in the bleaching towers with no chlorine dioxide application after washers are cleared. In the event the malfunction is resolved prior to reaching a zero operating state, the orderly shutdown may be terminated, and the bleach plant equipment returned to normal operating condition.
3. The parameter excursion shall be corrected as soon as practicable.

The period of malfunction for the bleach plants managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63 Subpart S or 15A NCAC 02D .1111.

B. 40 CFR 63, Subpart S Affected Sources Permitted per 40 CFR 63.447 Clean Condensate Alternative:

Emission Source ID No.	Emission Source Description	Control Device ID No.	Control Device Description
HVLC System Sources Under Clean Condensate Alternative			
ES-BSW1 and 4	Brownstock washing - 40 CFR Part 63.443(a)(1)(iii)	NA	No control will be required for HAP emissions from brownstock washing and oxygen delignification systems under the MACT approved Clean Condensate Alternative option, authorized under 40 CFR §63.447. Under this option, the Permittee will perform projects that reduce methanol emissions from the Riegelwood Mill by an amount equivalent to the methanol reductions that would be achieved by HVLC emissions control and use an equation to demonstrate compliance with the Clean Condensate Alternative methanol emissions control requirements on a 180 day rolling total basis.
ES-O2D1	Oxygen Delignification System - 40 CFR Part 63.443(a)(1)(v)		

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulations
Hazardous Air Pollutants	**Pulp Washing and Oxygen Delignification Systems** In lieu of controlling the pulp washing and oxygen delignification systems, perform the following Clean Condensate Alternative projects and demonstrate ongoing compliance with Subpart S using the Ecredit and Edebit equations in Section 2.2 B. 1. f.: • Replace the Nos. 1, 2 and 3 Weak Black Liquor Ponds and Gum Storage Tanks with the New Weak Black Liquor Storage Tanks (ID Nos. ES-T001 and ES-T002) and the existing Weak Black Liquor Storage Tank (ES-G96 –"The Big M" Tank), • Process black liquor in the upgraded Recovery Boiler No. 5 in lieu of Recovery Boiler No. 3, • Reduce methanol emissions from the BLOX and recovery boilers, and • Collect and treat additional condensates in the steam strippers.	15 A NCAC 02D .1111 (40 CFR 63 Subpart S including by reference the MACT Clean Condensate Alternative, 40 CFR 63.447)

1. 15A NCAC 02D .1111: (MACT 40 CFR 63 SUBPART S, INCLUDING 40 CFR 63.447 THE CLEAN CONDENSATE ALTERNATIVE)

a. Unless otherwise indicated below, the Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR Part 63 Subpart S, including Subpart A "General Provisions" as defined per 63.440(g), and, 63.447 the Clean Condensate Alternative (a MACT approved alternative to 63.443 HVLC control requirements), as indicated in CCA Table 1 of Subpart S.

As outlined in CCA Table 1**,** per 40 CFR 63.6(f)(1), these emission standards shall apply at all times unless otherwise specified in 40 CFR Part 63, Subpart S. Terms used throughout this section are defined in the Clean Air Act as amended in 1990 and in 40 CFR 63.2 and 63.441. Units and abbreviations are defined in 40 CFR 63.3 [15A NCAC 02D .1111].

Emission Limitations [15A NCAC 02D .1111 (referencing the MACT standard and subsequently 40 CFR 63.447, the Clean Condensate Alternative)]

Clean Condensate Alternative Standards for the HVLC pulp washing and oxygen delignification systems at Kraft processes [63.443(a) and 40 CFR 63.447]

b. The Permittee shall meet the following control requirements for the total HAP emissions from the pulp washing (ID Nos. ES-BSW1 and ES-BSW4), and oxygen delignification systems (ID No. ES-O2D1); [40 CFR 63.443 and 40 CFR 63.447, Clean Condensate Alternative]:
    i. No control shall be required for the emissions from the Nos. 1 and 4 Brownstock Washer Sets (ID Nos. ES-BSW1 and ES-BSW4), from the Oxygen Delignification System (ID No. ES-O2D1), and/or from the Nos.1, 2 and 3 Unscreened Stock Tanks;
    ii. The Permittee shall eliminate all HAP emissions from the existing Nos. 1, 2 and 3 Weak Black Liquor (WBL) Ponds and the existing Nos. 1, 2 and 3 Weak Black Liquor (WBL) Gum Tanks:
        A. The existing Nos. 1, 2 and 3 WBL Ponds shall be drained of all liquor and removed from service and any weak black liquor source streams that otherwise would have been stored in these ponds shall be stored in either of the two new WBL storage tanks (ID Nos. ES-T001 and ES-T002) and/or the existing Big "M" WBL storage tank (ID No. ES-G96);
        B. The Permittee shall drain and permanently remove from black liquor service the three existing gum storage tanks;
        C. The Permittee shall be prohibited from any future storage of weak black liquor in storage ponds or lagoons.
    iii. The Permittee shall perform the following methanol emissions reduction projects to the extent needed to achieve methanol emissions reductions that are equivalent to the Subpart S HVLC control requirements**,** as demonstrated by the equations in Section 2.2 B. 1. f.:
        A. Recovery Boiler No. 3 (ID No. ES-RB3) shall be permanently removed from service and the black liquor from the BLOX/Recovery Boiler No. 3 system transferred to the lower emitting Recovery Boiler No. 5 (ID No. ES-RB5); and
        B. The Permittee shall collect and treat additional process condensates.

    The Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111, if the conditions in b. ii and iii, above are not met.

c. The Permittee must operate and maintain the emission source(s) in accordance with the procedures specified in the facility's start-up, shut-down, and malfunction (SSM) plan. At all times, including periods of startup, shutdown, and malfunction, the Permittee shall operate and maintain the emission source(s), including associated air pollution control equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions in accordance with the general provisions in 40 CFR 63.6(e). Malfunctions shall be corrected as soon as practicable after their occurrence in accordance with the startup, shutdown, and malfunction plan.

Emissions Testing [15A NCAC 02Q .0508(f); 40 CFR 63.457 and 63.447]

d. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.

Emission Factor Revision and/or Re-verification Testing [15A NCAC 02Q .0508(f); 40 CFR 63.457 and 63.447]

d. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ.

CCA Table 1 Emission Factor Revision and/or Re-Verification

i. Unless expressly forbidden as detailed in Section 2.2 B. 1. e. ii, all emission factors in CCA Table 1 of Section 2.2 B. 1. f. may be revised and/or re-verified as needed, or as requested by DAQ, through emission testing. Any testing shall be conducted in accordance with a protocol approved by the Division of Air Quality Technical Services Branch, Raleigh Central Office. The results of the emissions testing shall be used to update the appropriate methanol emission

factor(s) in CCA Table 1 of Section 2.2 B. 1. f. Once approved by DAQ, new emission factors shall be retroactively applied back to the date of the emissions testing used to establish the new emission factors.

ii. With the exception of E10.Pond.Emit, E8.RB3.EF_{old}, E8.RB4.EF_{old}, E8.RB5split, E8.RB5.EF_{old}, and E8.BLOX.EF_{old}, all emission factors may be re-determined based on methanol emissions testing conducted as described in Section 2.2 B. 1. e. Any revisions to the emission factors contained in CCA Table 1 shall be made via administrative amendment. Once approved by DAQ, new (tested) emission factors shall be retroactively applied back to the date of the emissions testing used to establish the new emission factors. Revised or new debits, or calculated (increased) emission factors shall become effective within seven days following the effective date of the DAQ approval.

Additional Credits

iii. Any additional credits that have not otherwise been expressly identified in Section 2.2 B. 1. f. cannot be used to demonstrate compliance until a permit application has been submitted and the additional credits incorporated into the permit.

Monitoring for the Clean Condensate Alternative Approach [40 CFR 63.447, 63.453]

f. Compliance shall be determined by comparing the methanol emissions debits to the methanol emissions credits over a 180-day rolling total**.** Calculations for credits or debits (listed in Section 2.2 B. 1. f. and CCA Table 1), will not execute during each 24-hour mill operating day constituting a full mill shutdown (across all process areas). Shutdowns (for a full 24-hour mill day) of a given process or process area within the mill, will be manually recorded in the CMS as having either zero credits or debits (whichever applies for the 24-hour mill day in question). Days where any process in CCA Table 1 operates for a partial mill day will continue to calculate credits or debits following the calculations in 2.2 B. 1. f. The following equations shall be used to calculate the daily debit ($Edebit_i$), and the 180-day rolling total debit ($Edebit_{total}$), and additionally, the daily credit ($Ecredit_i$), and the 180-day rolling total credit ($Ecredit_{total}$):

$Edebit_i$ = E1.1BSW.Emit + E2.O2Delig.Emit + E3.UnsStkTk.Emit + E4.4BSW.Emit + E6.WBL.Emit + E7.SWR.Emit

$Ecredit_i$ = E8.Rec.Emit + E9.Pond.Emit + E10.Gum.Emit + E11.SScollect.Emit

$Edebit_{total}$ = $\sum_{i=1}^{180} Edebit_i$ where i indicates each of the last 180 mill production days

$Ecredit_{total}$ = $\sum_{i=1}^{180} Ecredit_i$ where i indicates each of the last 180 mill production days

Where:

$Edebit_i$ is the total emission debit for the i^{th} mill day,

And:

E1 through E4 represent the original HVLC collection scope (as though the HVLC gases were otherwise controlled in a combustion source meeting the MACT required 98% treatment level (0.98)).

E1.1BSW.Emit = (0.98) * (E1.1BSW.EF * **CRatio5&6 * P1.1BSW)**
E2.O2Delig.Emit = (0.98) * (E2.O2Delig.EF * **CRatio5&6 * P2.O2Delig)**
E3.UnsStkTk.Emit = (0.98) * (E3.UnsStkTk.EF * **CRatio5&6 * P3.UnsStkTk)**
E4.4BSW.Emit = (0.98) * (E4.4BSW.EF * **CRatio4 * P4.4BSW)**

Where:

E1 through E4 = Methanol LB/ODTUP Emission Factors As Follows:

E1.1BSW.EF = No. 1 Brownstock Washer Line
E2.O2Delig.EF = Oxygen Delignification System
E3.UnsStkTk.EF = Unscreened Stock Tanks
E4.4BSW.EF = No. 4 Brown Stock Washer Line

And:

CRatio5&6 = **(C5&6Shwr$_{weekly}$ / C5&6Shwr$_{bsln}$)**.
CRatio4 = **(C4Shwr$_{weekly}$ / C4Shwr$_{bsln}$)**.

C5&6Shwr$_{weekly}$ = The Nos. 5 and 6 Decker Shower Water, Post-Pond Closure Actual Weekly Average Methanol Concentration (ppm)
C4Shwr$_{weekly}$ = The No. 4 Decker Shower Water, Post-Pond Closure Actual Weekly Average Methanol Concentration (ppm)
C5&6Shwr$_{bsln}$ = The Nos. 5 and 6 Decker Shower Water, Pre-Pond Closure 41-Week Baseline Weekly Average Methanol Concentration (ppm). The concentration is fixed at 312.2parts per million (ppm) of methanol.
C4Shwr$_{bsln}$ = The No.4 Decker Shower Water**,** Pre-Pond Closure Actual 41-Week Baseline Weekly Average Methanol Concentration (ppm). The concentration is fixed at 154.9parts per million (ppm) of methanol.

If **CRatio (4 or 5&6)** proves to have a normal distribution around the baseline average, no net change in the debits will be apparent, even though daily increases and decreases may occur. If however, there is a statistical shift in methanol to the condensates following closure of the weak black liquor ponds, then, the frequency and/or magnitude of emission factor increases will cause the overall debits to increase for the pulping system emissions.

And:

P1.1BSW through P4.4BSW correspond to the ODTUP/Day processed by:

P1.1BSW = No. 1 Brownstock Washer
P2.O2Delig = Oxygen Delignification System
P3.UnsStkTk = Nos. 1, 2, and 3 Unscreened Stock Tanks
P4.4BSW = No. 4 Brownstock Washer Line

E6.WBL.Emit is the fixed mass emission in CCA Table 1 in pounds of methanol per day, emitted from 1206 gallons per minute (annualized average) of weak black liquor (WBL) flow previously sent to the Nos. 1 and 3 Weak Black Liquor Ponds. Following WBL Pond closure, the 1206gpm (equal to 466 equivalentODTUP/day) will be redirected to flow through any of three weak black liquor storage tanks (including, the two newly constructed WBL Tanks ES-T001 and/or ES-T002, and/or the Big "M" Tank, ES-G96).

E6.WBL.Emit = (**E6.**WBL.EF* **P6.**WBL.Transfer**) = lb/day methanol fixed debit**

Where:

E6.WBL.EF = Methanol lb/eODTUP converted emission factor
= Methanol lb/hr at time of air test) / (Black Liquor Solids lb/hr WBL Tank throughput at time of air test)
= Methanol lb/lb BL Solids emission factor
= (Methanol lb/lb BL Solids) * (3595lb BL Solids/equivalent ODTUP mill conversion factor)

= Methanol lb/eODTUP emission factor

P6.WBL.Transfer = 1206 gpm WBL transfer which converts to 466 eODTUP/day equivalent pulp production

E7.SWR.Emit is the additional methanol emitted to the atmosphere after pond closure in pounds per month, from sewering excess condensate at the decker feed tank(s), through mill trench "re-emission" calculated as follows:

Where:

E7.SWR.Emit = (E7.SwrFxdMass * E7.Trench.EF) = lb/day emitted from Sewer Trench (fixed daily debit)

= (**1776.4lb/day * 0.1422) = 252.25 lb/day methanol**

And:

E7.SwrFxdMass = (54,032 lb/month methanol sewered * 12 months/yr) / (365days/yr) = **1776.4 lb/day** methanol to sewer trench

E7.Trench.EF = EPA Water9 Model & Site Specific Data calculated sewer trench volatilization to atmosphere fraction calculated as **0.1422**

And:

Ecredit$_i$ is the total emission credit for the ith mill day,

E8.Rec.Emit is the methanol reduction from the BLOX system, Recovery Boiler No. 4 and Recovery Boiler No. 5 for each mill day, following shutdown of the Recovery Boiler No. 3.

E8.Rec.Emit = E8.RB345$_{bsln}$ – E8.RB45$_{new}$
Note: E8.Rec.Emit daily credit can be negative or positive.

E8.RB45$_{new}$ = (E8.RB4.Emit$_{new}$ + E8.RB5.Emit$_{new}$ + E8.BLOX.Emit$_{new}$)

E8.RB345$_{baseline}$ = (E8.RB3.Emit$_{old}$ + E8.RB4.Emit$_{old}$ + E8.RB5.Emit$_{old}$ + E8.BLOX.Emit$_{old}$)

E8.RB4.Emit$_{new}$ = (E8.RB4.EF$_{new}$ * P8.TBLS4$_{new}$) = lb/day methanol
E8.RB5.Emit$_{new}$ = (E8.RB5.EF$_{new}$ * P8.TBLS5$_{new}$) = lb/day methanol
E8.BLOX.Emit$_{new}$ = (E8.BLOX.EF$_{new}$ * P8.TBLS4$_{new}$) = lb/day methanol

Where:

P8.TBLS4$_{new}$ = Total (current) TBLS Fired by Recovery Boiler No. 4 for the each mill day,
P8.TBLS5$_{new}$ = Total (current) Tons Black Liquor Solids (TBLS) fired by Recovery Boiler No. 5 for the each mill day,
E8.RB4.EF$_{new}$ =Post-Pond Closure New Methanol Emission Factor from Recovery Boiler No. 4
E8.RB5.EF$_{new}$ = Post-Pond Closure New Methanol Emission Factor from Recovery Boiler No. 5
E8.BLOX.EF$_{new}$ = Post-Pond Closure New Methanol Emission Factor from the BLOX System

And:

E8.RB3.Emit$_{old}$ = (E8.RB3.EF$_{old}$ * P8.TBLS3$_{old}$) = lb/day methanol
E8.RB4.Emit$_{old}$ = (E8.RB4.EF$_{old}$ * P8.TBLS4$_{old}$) = lb/day methanol
E8.RB5.Emit$_{old}$ = (E8.RB5.EF$_{old}$ * P8.TBLS5$_{old}$) = lb/day methanol
E8.BLOX.Emit$_{old}$ = (E8.BLOX.EF$_{old}$) * (P8.TBLS3$_{old}$ + P8.TBLS4$_{old}$) = lb/day methanol

Where:

E8.RB3$_{split}$ = 15% (Fixed 2002 No.3RB TBLS Processed Percent Out of Total RB3, 4, & 5 TBLS Feed)
E8.RB4$_{split}$ = **26%** (Fixed 2002 No.4RB TBLS Processed Percent Out of Total RB3, 4, & 5 TBLS Feed)
E8.RB5$_{split}$ = **59%** (Fixed 2002 No.5RB TBLS Processed Percent Out of Total TBLS RB3, 4, & 5 Feed)

P8.TBLS45$_{new}$ = Total (current) Combined TBLS Fired by No.4 and No.5 Recovery Boiler for each mill day P8.TBLS45$_{new}$ = (P8.TBLS4$_{new}$ + P8.TBLS5$_{new}$)
P8.TBLS3$_{old}$ = (E8.RB3$_{split}$ * P8.TBLS45$_{new}$) = (0.15 * TBLS45$_{new}$) **=** Total TBLS that would have been fired by No.3 Recovery Boiler, if it was still running
P8.TBLS4$_{old}$ = (E8.RB4$_{split}$ * P8.TBLS45$_{new}$) = (0.26 * TBLS45$_{new}$) **=** Total TBLS that would have been fired by No.4 Recovery Boiler, if No.3RB was still running
P8.TBLS5$_{old}$ = (E8.RB5$_{split}$ * P8.TBLS45$_{new}$) = (0.59 * TBLS45$_{new}$**)** **=** Total TBLS that would have been fired by No.5 Recovery Boiler, if No.3RB was still running

E8.RB3.EF$_{old}$ = Pre-Pond Closure Combined Emission Factor for (BLOX1&2 + No.3Recovery Boiler), given as **(0.192 + 0.08) = 0.272 lb/TBLS**
E8.RB4.EF$_{old}$ = Pre-Pond Closure Old Methanol Emission Factor from the No.4 Recovery Boiler, given **as 0.08 lb/TBLS**
E8.RB5.EF$_{old}$ = Pre-Pond Closure Old Methanol Emission Factor from No.5 Recovery Boiler No.5, given as **0.015 lb/TBLS**
E8.BLOX.EF$_{old}$ = Pre-Pond Closure Old Methanol Emission Factor from the BLOX System, given as **0.192 lb/TBLS**

E9.Gum.Emit is the emission rate of methanol, in pounds per mill day, from the shutdown No.2 Gum Tank, given as a fixed emissions reduction credit in the equation below:

E9.Gum.Emit = 0.912 lb/hr of methanol * 24 hours/day = **21.9 lb/day** methanol fixed emission reduction credit.

E10.Pond.Emit is total emission rate of methanol, in pounds per mill day, from the closed weak black liquor storage ponds, from CCA Table 1, given as 110,332 lb/month or on a daily basis as calculated below:

E10.Pond.Emit = 110,332 lb/month * 12 months/yr / 365 days/yr **= 3627.4 lb/day** methanol fixed emission reduction credit.

E11.SScollect.Emit is the emission reduction credit for condensate overcollection and treatment in pounds of methanol for the each mill day, and is based on the condensates collected and treated above that required by 40 CFR 63.446.

E11.SScollect.Emit = (E11.SSPhase1Actual - E11.SSPhase1Req+Margin) * P11.Total * E11SSPhase1SSEffic% * E7.Trench.EF

Where:

E11.SSPhase1Actual = 15-Day Rolling Average Methanol, Daily Value lbs/ODTUP
E11.SSPhase1Req+Margin=12.91lb/ODTUP = 11.1 lb/ODTUP Phase I Required + 10% Safety Margin (at 10% * 11.1lb/ODTUP = 1.11 lb/ODTUP) =12.21 lb/ODTUP, + 0.7 lbs/ODTUP extra = 12.91 lb/ODTUP
P11.Total = Total mill daily digester production for tons of unbleached pulp production (ODTUP/Day)
E11.SSPhase1SSEffic% = 92% Treatment or 0.92 Fraction Treated in Steam Stripper Systems
E7.Trench.EF = 14.22% Volatilization from Mill Sewer Trench (or 0.1422 fraction emitted)

Note: **E11.SScollect.Emit** is taken to be zero for the day in question, if 15 day rolling average methanol daily value is less than 12.91 lb/ton.

$Edebit_{total}$ is the total emission debit for the 180 day rolling total

$Ecredit_{total}$ is the total emission credit for the 180 day rolling total

CCA Table 1. Methanol Emission Factors for Edebit and Ecredit Equations

Parameter	Value	Units (methanol)	Notes
Edebit$_i$			Each Edebit parameter is calculated daily and accrued into a 180 day rolling total
HVLC SCOPE EMISSIONS DEBIT (E1.1BSW.Emit, E2.O2Delig.Emit, E3.UnsStkTk.Emit, E4.4BSW.Emit)			
E1.1BSW.Emit		lb/day	(0.98) * (E1.1BSW.EF * CRatio5&6 * P1.1BSW)
E2.O2Delig.Emit		lb/day	(0.98) * (E2.O2Delig.EF * CRatio5&6 * P2.O2Delg)
E3.UnsStkTk.Emit		lb/day	(0.98) * (E3.UnsStkTk.EF * CRatio5&6 * P3.UnsStkTk)
E4.4BSW.Emit		lb/day	(0.98) * (E4.4BSW.EF * CRatio4 * P4.4BSW)
E1.1BSW.EF	0.3719 (fixed)	lb/ODTUP	No. 1BSW Emission Factor
E2.O2Delig.EF	0.9390 (fixed)	lb/ODTUP	O2 Delignification System Emission Factor.
E3.UnsStkTk.EF	0.0021 (fixed)	lb/ODTUP	Nos. 1, 2, and 3 Unscreened Stock Tanks Combined Emission Factor.
E4.4BSW.EF	1.2520 (fixed)	lb/ODTUP	No. 4 BSW Emission Factor
CRatio5&6		Ratio	= ($C5\&6Shwr_{weekly}$/$C5\&6Shwr_{bsln}$).
CRatio4		Ratio	= ($C4Shwr_{weekly}$/$C4Shwr_{bsln}$).
$C5\&6Shwr_{weekly}$	Weekly test	parts per million (ppm)	The Nos. 5 and 6 Decker Shower Water, Post-Pond Closure Actual Weekly Average Methanol Concentration
$C4Shwr_{weekly}$	Weekly test	parts per million (ppm)	The No. 4 Decker Shower Water, Post-Pond Closure Actual Weekly Average Methanol Concentration

Parameter	Value	Units (methanol)	Notes
C5&6Shwr$_{bsln}$	312.2 (fixed)	parts per million (ppm)	The pre-pond closure 41-Week Baseline Weekly Average Methanol Concentration for the evaporator condensates feeding the Nos. 5 and 6 Deckers. This concentration is fixed.
C4Shwr$_{bsln}$	154.9 (fixed)	parts per million (ppm)	The pre-pond closure 41-Week Baseline Weekly Average Methanol Concentration for the evaporator condensates feeding the No. 4 Decker Showers. This concentration is fixed.
P1.1BSW		ODTUP/day	Pulp processed by No. 1 Brownstock Washer
P2.O2Delg		ODTUP/day	Pulp processed by Oxygen Delignification System
P3.UnsStkTk		ODTUP/day	Pulp processed by Nos. 1, 2 and 3 Unscreened Stock Tanks
P4.4BSW		ODTUP/day	Pulp processed by No. 4 Brownstock Washer
WEAK BLACK LIQUOR TRANSFER DEBIT (E6.WBL.Emit)			
E6.WBL.Emit	(fixed daily debit lb/day)	lb/day	= (E6.WBL.EF * P6.WBL.Transfer) =lb/day methanol (post pond closure fixed debit).
E6.WBL.EF	0.022	lb/eODTUP	Methanol emission factor in pounds per equivalent pulp ton corresponding to the methanol tank emission of 1206 gal/min of weak black liquor (WBL) transferred from Nos. 1&3WBL Ponds to any of 3WBL Tanks.
P6.WBL.Transfer	465.6	eODTUP/day	1206 gal/min WBL equates to 465.6 eODTUP/Day
SEWERED CONDENSATE RE-EMISSION DEBIT (E7.Swr.Emit)			
E7.Swr.Emit	252.3 (fixed)	lb/day	= (E7.SwrFxdMass * E7.Trench.EF) = lb/day emitted from Sewer Trench (fixed daily debit).
E7.SwrFxdMass	1776.4	lb/day	54,032 lb/month methanol sewered * 12 months/yr)/(365days/yr) = 1776.4 lb/day methanol to sewer trench
E7.Trench.EF	0.1422 (fixed)	~	Fraction of methanol in the condensate sewered at the decker feed tank(s) that is reemitted to the atmosphere as determined using the EPA Water 9 Model
Ecredit$_i$			Each Ecredit parameter is calculated daily and accrued into a 180 day rolling total
NO. 3 RECOVERY BOILER SHUTDOWN CREDIT OR DEBIT (E8.Rec.Emit)			
E8.Rec.Emit		lb/day	E8.Rec.Emit = E8.RB345$_{bsln}$ – E8.RB45$_{new}$ The methanol emission reduction from the BLOX system, Recovery Boiler No. 4 and Recovery Boiler No. 5 for each mill day, following shutdown of Recovery Boiler No. 3. It is possible this value can be positive or negative.
E8.RB345$_{bsln}$		lb/day	E8.RB345$_{bsln}$ = (E8.RB3.Emit$_{old}$ + E8.RB4.Emit$_{old}$ + E8.RB5.Emit$_{old}$ + E8.BLOX.Emit$_{old}$)
E8.RB45$_{new}$		lb/day	E8.RB45$_{new}$ = (E8.RB4.Emit$_{new}$ + E8.RB5.Emit$_{new}$ + E8.BLOX.Emit$_{new}$)
E8.RB3.Emit$_{old}$		lb/day	E8.RB3.Emit$_{old}$ = (E8.RB3.EF$_{old}$ * P8.TBLS3$_{old}$)
E8.RB4.Emit$_{old}$		lb/day	E8.RB4.Emit$_{old}$ = (E8.RB4.EF$_{old}$ * P8.TBLS4$_{old}$)

Parameter	Value	Units (methanol)	Notes
E8.RB5.Emit$_{old}$		lb/day	E8.RB5.Emit$_{old}$ = (E8.RB5.EF$_{old}$ * P8.TBLS5$_{old}$)
E8.BLOX.Emit$_{old}$		lb/day	E8.BLOX.Emit$_{old}$ = (E8.BLOX.EF$_{old}$ *(P8.TBLS3$_{old}$ + P8.TBLS4$_{old}$)
E8.RB4.Emit$_{new}$		lb/day	E8.RB4.Emit$_{new}$ = (E8.RB4.EF$_{new}$ * P8.TBLS4$_{new}$)
E8.RB5.Emit$_{new}$		lb/day	E8.RB5.Emit$_{new}$ = (E8.RB5.EF$_{new}$ * P8.TBLS5$_{new}$)
E8.BLOX.Emit$_{new}$		lb/day	E8.BLOX.Emit$_{new}$ = (E8.BLOX.EF$_{new}$ * P8.TBLS4$_{new}$)
E8.RB5.EF$_{new}$	0.0134	lb/TBLS	The methanol emission factor for Recovery Boiler No. 5 - after pond closure.
E8.RB5.EF$_{old}$	0.015 (fixed)	lb/TBLS	The methanol emission factor for Recovery Boiler No. 5 prior to pond closure. This value cannot be changed.
E8.RB4.EF$_{new}$	0.2806	lb/TBLS	The methanol emission factor for Recovery Boiler No. 4 after pond closure.
E8.RB4.EF$_{old}$	0.080 (fixed)	lb/TBLS	The methanol emission factor for Recovery Boiler No. 4 prior to pond closure. This value cannot be changed.
E8.BLOX.EF$_{new}$	0.879	lb/TBLS	The methanol emission factor for the black liquor oxidation system after pond closure.
E8.BLOX.EF$_{old}$	0.192 (fixed)	lb/TBLS	The methanol emission factor for the black liquor oxidation system prior to pond closure. This value cannot be changed.
E8.RB3.EF$_{old}$	0.272 (fixed)	lb/TBLS	The sum of the emission factors for the BLOX and Recovery Boiler No. 3. This is used to determine the emission reduction from transferring black liquor from the Recovery Boiler No. 3 system to the lower emitting Recovery Boiler No. 5. This value cannot be changed.
E8.RB3$_{split}$	15% (fixed)	Fraction 15% / 100 = 0.15	The fraction of the total black liquor solids sent to Recovery Boiler No. 3 in 2002. This value cannot be changed.
E8.RB4$_{split}$	26% (fixed)	Fraction 26% / 100 = 0.26	The fraction of the total black liquor solids sent to Recovery Boiler No. 4 in 2002. This value cannot be changed.
E8.RB5$_{split}$	59% (fixed)	Fraction 59% / 100 = 0.59	The fraction of the total black liquor solids sent to Recovery Boiler No. 5 in 2002. This value cannot be changed.
P8.TBLS45$_{new}$		TBLS/day	Total (current) Combined TBLS Fired by Recovery Boiler Nos. 4 and No. 5 for each mill day P8.TBLS45$_{new}$ = (P8.TBLS4$_{new}$ + P8.TBLS5$_{new}$)
P8.TBLS3$_{old}$		TBLS/day	E8.RB3$_{split}$ * P8.TBLS45$_{new}$ = (0.15 * P8.TBLS45$_{new}$) = Total TBLS that would have been fired by Recovery Boiler No. 3, if it was still running
P8.TBLS4$_{old}$		TBLS/day	(E8.RB4$_{split}$ * P8.TBLS45$_{new}$) = (0.26 * P8.TBLS45$_{new}$) = Total TBLS that would have been fired by Recovery Boiler No. 4, if Recovery Boiler No. 3 was still running
P8.TBLS5$_{old}$		TBLS/day	(E8.RB5$_{split}$ * P8.TBLS45$_{new}$) = (0.59*P8.TBLS45$_{new}$) = Total TBLS that would have been fired by Recovery Boiler No. 5, if Recovery Boiler No. 3 was still running
NO. 2 GUM TANK SHUTDOWN FIXED CREDIT (E9.Gum.Emit)			

Parameter	Value	Units (methanol)	Notes
E9.Gum.Emit	21.9 (fixed)	lb/day	Credit from shutdown of No. 2 Gum Tank, given as: pre-pond closure air test of 0.912 lb/hr of methanol * 24 hours/day = 21.9 lb/day methanol fixed emission reduction credit.
WBL POND CLOSURE FIXED CREDIT (E10.Pond.Emit)			
E10.Pond.Emit	3627.4 (fixed)	lb/day	Black liquor ponds emission rate. This value cannot be changed. E10.Pond.Emit = 110,332 lb/month * 12 months/yr / 365 days/yr = 3627.4 lb/day methanol fixed emission reduction credit.
MACT I STEAM STRIPPED OVER-COLLECTION CREDIT (E11.SScollect.Emit)			
E11.SScollect.Emit	Defined by monitoring (calculated daily)	lb/day	E11.SScollect.Emit = (E11.SSPhase1Actual - E11.SSPhase1Req+Margin) * P11.Total * E11.SSPhase1SSEffic% * E7.Trench.EF The methanol credit for the condensate over collection and treatment determined by monitoring data. This credit is based on the condensates collected and treated, beyond those required to be collected and treated in order to meet the requirements of 40 CFR 63.446.
E11.SSPhase1Actual	15-day rolling avg (daily)	lb/ODTUP	15-Day Rolling Average Methanol, Daily Value lbs/ODTUP
E11.SSPhase1Req+ Margin	12.91 (Fixed)	lb/ODTUP	12.91 lb/ODTUP = 11.1 lb/ODTUP Phase I Required + 10% Safety Margin (at 10%*11.1 lb/ODTUP = 1.11 lb/ODTUP) =12.21 lb/ODTUP, + 0.7 lbs/ODTUP extra = 12.91 lb/ODTUP
P11.Total	Actual Daily Mill Pulp Tons	ODTUP/day	Total mill daily digester production for tons of unbleached pulp production =(P1.1BSW + P4.4BSW from above)

The Permittee shall monitor each component of $Ecredit_i$ and $Edebit_i$, to demonstrate compliance, specifically including but not limited to, the following:

i. P1.1BSW through P4.4BSW as above;
ii. The tons of black liquor solids fired by Recovery Boiler No. 4 (P8.TBLS4) and by Recovery Boiler No. 5 (P8.TBLS5); and
iii. The pounds of methanol that are collected above 12.91 lb/ODTUP (E11.SScollect.Emit) for treatment in the steam stripper system.

The Permittee shall calculate $Ecredit_i$ and $Edebit_i$ for each mill operating day, and subsequently, shall calculate the 180 day rolling total comparison of Ecredit and Edebit that will be used to demonstrate compliance. If $Edebit_{total}$ is greater than $Ecredit_{total}$,, then the facility shall be deemed in non-compliance with 15A NCAC 02D .1111. Any retesting shall be conducted in accordance with Section 2.2 B. 1. d. Any additional credits that have not otherwise been identified Section 2.2 B. 1. f. cannot be used in equation Ecredit until a permit application has been submitted and the permit revised accordingly.

Monitoring of Condensate-Related Control Requirements [40 CFR 63.447, 63.453]

g. The Permittee shall determine the weekly average methanol concentrations of the Nos. 5 and 6 Decker Showers and the No. 4 Decker Shower in accordance with a protocol approved by Division of Air Quality Technical Services Branch, Raleigh Central Office. The methanol concentration shall be determined by daily composite or grab sampling during the 5 day work week, and if possible, (but not

required) on weekends and holidays, and in accordance with the procedure set forth in 40 CFR 63.457(c)(3)(ii), and shall be reported in milligrams of methanol/Liter (or parts per million, ppm).

i. No. 4 Decker Shower Water and Nos. 5 and 6 Decker Showers - The post-pond shutdown, weekly tested average methanol concentration for the above-mentioned streams in CCA Table 2, shall be:

A. Utilized as the daily concentration for each day in the seven day week that shower water was sampled, and, for each respective shower water source sampled, as given in CCA Table 2.
B. The weekly average methanol concentration will be applied to all days in the seven-day week, including those where no sample was collected or analyzed, as with weekends and/or holidays.
C. In the case of days with invalid or missing data due to CMS malfunctions and downtime, the average shall be based on all valid data for the seven-day period.
D. In the rare event that no sample weekly average concentration is available (due to sampler failure, sample breakage, or other malfunction etc.), the highest weekly average concentration observed in the past 26 week period for the given sample stream, will be applied as the daily average concentration for each of the seven days for the week in question. Using this approach a conservatively high additional debit will be calculated for each day of the week in question.

ii. C4ShwrWeekly and C5&6ShwrWeekly = No. 4 Decker Shower and No. 5 and No. 6 Decker Showers - The post-pond shutdown, weekly tested average methanol concentration shall be applied as follows:

A. The daily average methanol concentration value will be divided by the 41-Week Baseline Average methanol concentration as given in CCA Table 2 creating a ratio of the Actual-to-Baseline methanol concentration values.
B. The daily (Actual to Baseline) concentration ratio will be multiplied by the IPT established emission factor for each source as given in CCA Table 1, creating an Adjusted IPT emission factor in LB/ODTUP methanol.
C. The Adjusted IPT emission factor will be multiplied by the unit production (ODTUP/Day) to determine the mass debits from each system (in lb/day methanol), each day.
D. The Credit to Debit comparison will reflect daily movement in the Credit to Debit balance. This will reflect any net shift in methanol back to the process due to closure of the Nos. 1, 2, and 3 WBL Ponds. If a shift has occurred, the number and magnitude of actual weekly methanol concentrations above the 41-Week Baseline average will increase and result in a net additional debit entering the 180 day rolling total.
E. The daily mass methanol debit values (in lb/day) will be accrued into the 180 day rolling total values.
F. The 180 day rolling total Credit to Debit relationship must remain equal or greater than zero, otherwise the Permittee shall be deemed in noncompliance with the requirements in with 15A NCAC 02D .1111. The Permittee shall be required to implement a corrective plan no later than 60 days after the monitoring system calculates a negative 180 day rolling total. The corrective plan shall restore the 180 day rolling total to a positive credit balance equal or greater than zero.

h. The Permittee shall review, using a protocol approved by the Division of Air Quality, post pond closure Continuous Monitoring System data and/or new air emissions data to determine if reduced monitoring of any of the CCA parameters can be justified based on DAQ review.
i. If the Permittee can demonstrate to the Division of Air Quality that a positive credit balance can be achieved on a 180 day rolling total basis, (using existing emission factors or existing emission factors that are permanently increased (if a net debit increase is observed in the CMS) so as to create a permanently increased daily debit), then one or more of the shower water condensate monitoring requirements may be discontinued pending review and approval by the Division of Air Quality. The facility may at anytime following the first 26 weeks of CMS operation, submit supporting data (which can include CMS data from the first 26 weeks of

CMS operation) and/or calculations to justify (1) discontinued condensate sampling and methanol testing of the systems utilizing condensates as given in CCA Table 2 and/or (2) conversion of calculated debits or credits, to fixed values, where appropriate and considered by DAQ to provide a continuous, conservative documentation of compliance. Revised or new debits or credits, or calculated (increased) emission factors shall become effective within seven days following the effective date of the DAQ approval.

ii. As an alternative to applying an additional fixed debit(s) or a permanent concentration ratio-adjusted emission factor to minimize or eliminate the need for condensate testing, the permittee may submit a test protocol, in accordance with Section 2.2 B. 1. d, to re-determine the methanol emission factors from any of the sources in CCA Table1still in operation following closure of the Nos. 1, 2 and 3 WBL Ponds. Once approved by DAQ, new (tested) emission factors shall be retroactively applied back to the date of the emissions testing used to establish the new emission factors.

i. CMS malfunction and downtime may not exceed 2% of associated process operating time in any semi-annual period.

CCA Table 2: Condensate/Shower Water Methanol Concentration Fixed Baseline Values

Location	Value	Units	Valid Date Range	Notes
No. 5 and No. 6 Decker Showers **$C5\&6Shwr_{bsln}$**	**312.2mg/l (or ppm)**	Mg Methanol/L (ppm may be used in the calculations)	**41-Week Baseline (Straight Average)**	These deckers receive evaporator condensate and dilution water and feed decker filtrate counter-current to the O2 system and then subsequently to the New No.1 BSW/Press System
No. 4 Decker Showers **$C4Shwr_{bsln}$**	**154.9 mg/l (or ppm)**	Mg Methanol/L (ppm may be used in the calculations)	**41-Week Baseline (Straight Average)**	The No. 4 Decker receives evaporator condensate and dilution water and feeds decker filtrate countercurrent to the two-stage No. 4 BSW System

j. The actual pounds of methanol that are collected in the condensates and the effectiveness of the steam stripper system (each of which are components of E11.SScollect.Emit as defined in Section 2.2 B. 1. f.) shall be monitored and determined by the following:
   i. The actual condensate collection shall be determined per the 40 CFR Part 63, Subpart S monitoring requirements as described in Section 2.2 A. 1. h.; and
   ii. The steam stripper system operation shall be monitored per the 40 CFR Part 63, Subpart S monitoring requirements as described in Section 2.2 A. 1. j.

Recordkeeping [40 CFR 63.447, 63.454; 63.458]

k. The Permittee shall keep and maintain monthly records in a logbook (written or electronic) of each

component of $Ecredit_i$, $Edebit_i$, $Edebit_{total}$, and $Ecredit_{total}$ monitoring.

l. The Permittee shall keep and maintain records in a logbook (written or electronic) of all data used to determine the average methanol concentrations to the Nos. 5 and 6 Decker Showers and the No. 4 Decker Shower.

m. The Permittee shall keep records in a logbook (written or electronic) of the results of the condensate collection and treatment monitoring**.**

Reporting Requirements [40 CFR 63.458, 63.447]

n. The Permittee shall submit a semi-annual summary report to the Regional Air Quality Supervisor of monitoring and recordkeeping activities postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. All instances of deviations from the requirements of this permit must be clearly identified. Additionally, each semi-annual report shall identify the following:

i. The total oven dried tons unbleached pulp, for the semi-annual reporting period for each of P1.1BSW through P4.4BSW;
ii. The total tons black liquor solids (TBLS) fired, for the semi-annual reporting period, in Recovery Boiler No. 4 (P8.TBLS4),
iii. The total TBLS fired for the semi-annual reporting period, in Recovery Boiler No. 5 (P8.TBLS5),
iv. E11.SScollect.Emit for the semi-annual reporting period,
v. E7.SWR.Emit, additional methanol emitted to the atmosphere after pond closure in pounds per month, from sewering excess condensate at the decker feed tank(s)), for the semi annual reporting period,
vi. $Edebit_i$ as determined in Section 2.2 B. 1. f,
vii. $Ecredit_i$ as determined in Section 2.2 B. 1. f,
viii. $Edebit_{total}$ for the semi-annual reporting period, and
ix. $Ecredit_{total}$ for the semi-annual reporting period
x. Weekly average methanol concentrations of the condensate used in the:
   A. $C5\&6Shwr_{weekly}$, Nos. 5 and 6 Decker Showers
   B. $C4Shwr_{weekly}$, No. 4 Decker Showers

The 41-Week Baseline average methanol concentration values will be included for each test location as given in CCA Table 2, as a reference in the semi-annual report.

o. The Permittee shall comply with the applicable reporting requirements of 40 CFR 63, Subpart A as specified in Table 1 of 40 CFR 63.440.

C. 40 CFR 63, Subpart MM Affected Sources:

Source ID No.	Source Description	Control ID No	Control Description
ES-RB4	Recovery Boiler No. 4	CD-4RB-ESP	Electrostatic Precipitator
ES-RB5	Recovery Boiler No. 5	CD-5RB-ESP	Electrostatic Precipitator
ES-ST4	No. 4 smelt dissolving tank	CD-4ST-1	wet scrubber-fan impingement type
ES-ST5E and ES-ST5W	No. 5 East and West smelt dissolving tanks	CD-5EST-1 and CD-5WST-1	wet scrubber-fan impingement type and wet scrubber-fan impingement type (installed one each, respectively)
ES-LK3	Lime Kiln No. 3	CD-KK-213 and CD-3LK-1	Simple cyclone and wet scrubber-venturi type
ES-K4001	Lime Kiln No. 4	CD-K4021 and CD-K4006	electrostatic precipitator and wet scrubber - fixed throat, spray venturi type

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	Individual PM limits are calculated for each chemical recovery system source based on equations provided in Subpart MM. Alternate PM emission limits for the two lime kilns are then calculated under the Equivalency by Permit approach.	15A NCAC 02D .1111 (40 CFR 63 Subpart MM) and 40 CFR 63.94, Equivalency by Permit, in place of 63.862 for ES-LK3 AND ES-K4001.

1. 15A NCAC 02D .1111: MACT 40 CFR 63 SUBPART MM

a. Except as otherwise provided below, the Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR Part 63 Subpart MM, including Subpart A "General Provisions" as defined per 63.440(g) and indicated per Table 1 of Subpart MM. These emission standards shall apply at all times unless otherwise specified in 40 CFR Part 63, Subpart MM. Terms used throughout this section are defined in the Clean Air Act as amended in 1990 and in 40 CFR 63.2 and 63.861. Units and abbreviations are defined in 40 CFR 63.3. [15A NCAC 02D .1111]

The authority for the alternate control requirements for Equivalency by Permit (EBP) is given in 40 CFR parts 63.91 63.94, and 63.99 as promulgated in "Approval of Section 112(l) Authority for Hazardous Air Pollutants; Equivalency by Permit Provisions; National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry; State of North Carolina", Federal Register, Vol. 69, No. 70/Monday, April 12, 2004, pp. 19106-19109. Section 63.99 "Delegated Federal Authorities" of Subpart E "Approval of State Programs and Delegation of Federal Authorities" was also amended at FR Vol. 69, No. 70/Monday, April 12, 2004, p. 19110 to add 63.99(a)(33)(ii) North Carolina.

Emission Limitations [15A NCAC 02D .1111 and 40 CFR 63.94, Equivalency by Permit]

b. Determine the overall PM emission limit for ES-RB4, ES-RB5, ES-K4001, ES-ST4, ES-ST5E and ES-ST5W as follows: [63.865(a)]

$$EL_{PM} = [(C_{ref,\ RF})(Q_{RFtot})+(C_{ref,\ LK})(Q_{LKtot})]F1 / (BLS_{TOT})+ER1_{ref,\ SDT}$$

Where:

EL_{PM} = Overall PM emission limit for ES-RB4, ES-RB5, ES-K4001, ES-ST4, ES-ST5E, and ES-ST5W, lb/TBLS

$C_{ref, RF}$ = Reference concentration of 0.10 g/dscm (0.44 gr/dscf) corrected to 8 percent oxygen for existing kraft recovery furnaces

Q_{RFtot} = Sum of the average volumetric gas flow rates measured during the performance test and corrected to 8 percent oxygen for ES-RB4 and ES-RB5, dscm/min (dscf/min)

$C_{ref, LK}$ = Reference concentration of 0.15 g/dscm (0.064 gr/dscf) corrected to 10 percent oxygen for existing kraft lime kilns

Q_{LKtot} = Sum of the average volumetric gas flow rate measured during the performance test and corrected to 10 percent oxygen for ES-K4001, dscm/min (dscf/min)

F1 = Conversion factor, 1.44 min-kg/day-g (0.206 min-lb/day-gr)

BLS_{TOT} = Sum of the average black liquor solids firing rates of ES-RB4 and ES-RB5 measured during the performance test, Mg/day (ton/day) of black liquor solids fired

$ER1_{ref, SDT}$ = Reference emission rate of 0.10 kg/Mg (0.20 lb/ton) of black liquor solids fired for existing kraft or soda smelt dissolving tanks

c. Determine the PM emission rate for ES-RB4 and ES-RB5 as follows: [63.865(a)(2)(i) and (iv)]

$$ER_{RF} = [(F1)(C_{EL,RF4})(Q_{RF4})/(BLS_{RF4})]\ [BLS_{RF4}/BLS_{TOT}] + [(F1)(C_{EL,RF5})(Q_{RF5})/(BLS_{RF5})]\ [BLS_{RF5}/BLS_{TOT}]$$

Where:

ER_{RF} = Emission rate for the recovery furnaces, kg/Mg (lb/ton) black liquor solids

F1 = Conversion factor, 1.44 min-kg/day-g (0.206 min-lb/day-gr)

$C_{EL,RF}$ = PM emission limit for each recovery furnace proposed by Permittee, g/dscm (gr/dscf), corrected to 8 percent oxygen

Q_{RF} = Average volumetric gas flow rate measured during the performance test and corrected to 8 percent oxygen for the recovery furnace, dscm/min (dscf/min)

BLS_{RF} = Average black liquor solids firing rates of the recovery furnace measured during the performance test, Mg/day (ton/day) of black liquor solids fired

BLS_{TOT} = Sum of the average black liquor solids firing rates of ES-RB4 and ES-RB5 measured during the performance test, Mg/day (ton/day) of black liquor solids fired

d. Determine the PM emission rate for ES-ST4, ES-ST5E and ES-ST5W as follows: [63.865(a)(2)(ii) and (iv)]

$$ER_{SDT} = [(F1)(C_{EL,SDT4})(Q_{SDT4})/(BLS_{SDT4})]\ [BLS_{SDT4}/BLS_{TOT}] + [(F1)(C_{EL,SDT5E})(Q_{SDT5E})/(BLS_{SDT5E})]\ [BLS_{SDT5E}/BLS_{TOT}] + [(F1)(C_{EL,SDT5W})(Q_{SDT5W})/(BLS_{SDT5W})]\ [BLS_{SDT5W}/BLS_{TOT}]$$

Where:

ER_{SDT} = Emission rate for the smelt dissolving tanks, kg/Mg (lb/ton) black liquor solids

F1 = Conversion factor, 1.44 min-kg/day-g (0.206 min-lb/day-gr)

$C_{EL,SDT}$ = PM emission limit for each smelt dissolving tank proposed by Permittee, g/dscm (gr/dscf)

Q_{SDT} = Average volumetric gas flow rate for the smelt dissolving tank measured during the performance test, dscm/min (dscf/min)

BLS_{SDT} = Average black liquor solids firing rates for the associated recovery furnace measured during the performance test, Mg/day (ton/day) of black liquor solids fired

BLS_{TOT} = Sum of the average black liquor solids firing rates of ES-RB4 and ES-RB5 measured during the performance test, Mg/day (ton/day) of black liquor solids fired

e. Determine the baseline PM emission rate for ES-K4001 as follows. [63.865(a)(2)(iii)]

$$ER_{LK4BASE} = (F1)(C_{EL,LK4BASE})(Q_{LK4})\ (CaO_{LK4}/BLS_{TOT})/(CaO_{LK4})$$

Where:

$ER_{LK4BASE}$ = Baseline emission rate for ES-K4001, kg/Mg (lb/ton) black liquor solids

F1 = Conversion factor, 1.44 min-kg/day-g (0.206 min-lb/day-gr)

$C_{EL,LK4BASE}$ = Baseline PM emission limit proposed by Permittee, g/dscm (gr/dscf)

Q_{LK4} = Average volumetric gas flow rates measured during the performance test and corrected to 10 percent oxygen for ES-K4001, dscm/min (dscf/min)
BLS_{TOT} = Sum of the average black liquor solids firing rates of ES-RB4 and ES-RB5 measured during the performance test, Mg/day (ton/day) of black liquor solids fired
CaO_{LK4} = Lime kiln ES-K4001production rate measured as CaO during the performance test, Mg/day (ton/day) of CaO

f. Determine the overall PM emission rate for the chemical recovery system as follows: [63.865(a)(2)(v)]

$$ER_{TOT} = (ER_{RF} + ER_{SDT} + ER_{LK4BASE})$$

Where:
ER_{TOT} = Overall PM emission rate for the chemical recovery system, kg/Mg (lb/ton) black liquor solids
ER_{RF} = Emission rate for the recovery furnaces, kg/Mg (lb/ton) black liquor solids
ER_{SDT} = Emission rate for the smelt dissolving tanks, kg/Mg (lb/ton) black liquor solids
ER_{LKBASE} = Baseline emission rate for ES-K4001, kg/Mg (lb/ton) black liquor solids

g. Determine the PM emission limits in gr/dscf for ES-LK3 and ES-K4001 under 40 CFR 63.94, Equivalency by Permit, as follows. [40 CFR 63.94]

$$C_{EL,LKBASE} = C_{EL,LKEBP}$$
$$[C_{EL,LK3BASE} * Q_{LK3} + C_{EL,LK4BASE} * Q_{LK4}] = [C_{EL,LK3EBP} * Q_{LK3}] + [C_{EL,LK4EBP} * Q_{LK4}]$$

Where:

$C_{EL,LK3BASE}$ = ES-LK3 MACT II single source limit of 0.15 g/dscm (0.064 gr/dscf)
$C_{EL,LK4BASE}$ = ES-K4001 baseline MACT II bubble limit determined from bubble calculations under (e) using performance test data, g/dscm (gr/dscf)
$C_{EL,LK3EBP}$ = ES-LK3 alternative limit under equivalency by permit, g/dscm (gr/dscf)
$C_{EL,LK4EBP}$ = ES-K4001 alternative limit under equivalency by permit, g/dscm (gr/dscf)
Q_{LK3} = Average volumetric gas flow rate measured during the performance test and corrected to 10 percent oxygen for ES-LK3, dscm/min (dscf/min)
Q_{LK4} = Average volumetric gas flow rate measured during the performance test and corrected to 10 percent oxygen for ES-K4001, dscm/min (dscf/min)

h. ES-LK3 shall be operated no more than 1440 hours per calendar year and may be operated while ES-LK4001 is operating. The Permittee is not required to re-establish the allowable PM emission rate for ES-LK3 if it is shut down for more than 60 consecutive days, unless otherwise required per 63.7. [40 CFR 63.94]

i. The chemical recovery system emission limits must be re-established if either (1) the air pollution control system for ES-RB4, ES-RB5, ES-LK3, ES-K4001, ES-ST4, ES-ST5E or ES-ST5W is modified (as defined in 63.861) or replaced, or (2) ES-RB4, ES-RB5, ES-K4001, ES-ST4, ES-ST5E or ES-ST5W is shut down for more than 60 consecutive days. [40 CFR 63.862(a)(ii)(D)]

j. The emission limits for ES-RB5, ES-K4001, ES-ST5E, and ES-ST5W must not be less stringent than the applicable emissions limitations in 40 CFR 60.282. [40 CFR 63.862(a)(ii)(B)]

k. The following table summarizes the equation variables contained in Sections 2.2 C. 1. b. through g. above. The Permittee shall use the values below for the appropriate equation(s), or where applicable, as demonstrated in the most recent performance test. When revised through performance testing, the applicable table below may be modified through an administrative amendment to the permit to reflect the results of the most recent performance test(s). The Permittee shall not use the updated values until the test results are incorporated into the permit.

Variable	Permit Condition	Basis	Value	Units
EL_{PM}	2.2. B.1.b.	calculated	1.383	lb/TBLS

$C_{ref, RF}$	2.2. B.1.b.	constant	0.44	gr/dscf at 8% oxygen
Q_{RFtot}	2.2. B.1.b.	testing	499,969	dscf/min
$C_{ref, LK}$	2.2. B.1.b.	constant	0.064	gr/dscf at 10% oxygen
Q_{LKtot}	2.2. B.1.b.	testing	64,797	dscf/min
F1	2.2. B.1.d.-e.	constant	0.206	min-lb/day-gr
BLS_{tot}	2.2. B.1.d.-e.	testing	4,554	ton/day of BLS
$ER1_{ref, SDT}$	2.2. B.1.b.	constant	0.20	lb/ton of BLS
ER_{RF}	2.2. B.1.c., f.	calculated	1.022	lb/ton BLS
$C_{EL,RF4}$	2.2. B.1.c.	proposed by Permittee (this limit applies to both stacks)	0.051	gr/dscf at 8 percent oxygen
$C_{EL,RF5}$	2.2. B.1.c.	proposed by Permittee	0.043	gr/dscf at 8 percent oxygen
Q_{RF4}	2.2. B.1.c.	testing	138,031	dscf/min
Q_{RF5}	2.2. B.1.c.	testing	361,938	dscf/min
BLS_{RF4}	2.2. B.1.c.	testing	1,216	ton/day of BLS
BLS_{RF5}	2.2. B.1.c.	testing	3,338	ton/day of BLS
ER_{SDT}	2.2. B.1.d., f.	calculated	0.169	lb/ton BLS
$C_{EL,SDT4}$	2.2. B.1.d.	proposed by Permittee	0.097	gr/dscf
$C_{EL,SDT5E}$	2.2. B.1.d.	proposed by Permittee	0.052	gr/dscf
$C_{EL,SDT5W}$	2.2. B.1.d.	proposed by Permittee	0.053	gr/dscf
Q_{SDT4}	2.2. B.1.d.	proposed by Permittee	20,165	dscf/min
Q_{SDT5E}	2.2. B.1.d.	proposed by Permittee	17,125	dscf/min
Q_{SDT5W}	2.2. B.1.d.	proposed by Permittee	16,752	dscf/min
BLS_{SDT4}	2.2. B.1.d.	testing	1,212	ton/day of BLS
BLS_{SDT5E}	2.2. B.1.d.	testing	1,664	ton/day of BLS
BLS_{SDT5W}	2.2. B.1.d.	testing	1,664	ton/day of BLS
$ER_{LK4BASE}$	2.2. B.1.e., f., g.	calculated	0.188	lb/ton BLS
$C_{EL,LK4BASE}$	2.2. B.1.e., g.	proposed by Permittee	0.064	gr/dscf
Q_{LK4}	2.2. B.1.e.	testing	64,797	dscf/min
CaO_{LK4}	2.2. B.1.e.	testing	746	ton/day of CaO
ER_{TOT}	2.2. B.1.f.	calculated	1.379	lb/ton BLS
$C_{EL,LK3BASE}$	2.2. B.1.g.	constant	0.064	gr/dscf
$C_{EL,LK3EBP}$	2.2. B.1.g.	alternative limit proposed under EBP	0.10	gr/dscf
$C_{EL,LK4EBP}$	2.2. B.1.g.	alternative limit proposed under EBP	0.049	gr/dscf
Q_{LK3}	2.2. B.1.g.	testing	27,085	dscf/min
Q_{LK4}	2.2. B.1.g.	testing	64,797	dscf/min

Testing [15A NCAC 02D .1111, 40 CFR 63.7, 40 CFR 63.865, and 40 CFR 63.94, Equivalency by Permit]

l. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of the testing are above any of the limits given in Section 2.2 C. 1. b through g. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111.

m. If emissions testing is required to re-establish the chemical recovery system emission limits under 2.2 C. 1. b through f, testing shall be performed according to the procedures in 63.7, 63.865, and General Condition JJ. Per EPA correspondence dated June 6, 2003, the Permittee shall conduct Subpart MM performance testing at the outlet of the No. 4 Lime Kiln ESP (ID No. CD-K4021), not the outlet of the No. 4 Lime Kiln Scrubber (ID No. CD-K4006). If the results of the testing indicate that the chemical recovery system emission rate determined in 2.2 C. 1. f. is greater than the chemical recovery system emission limit determined in 2.2 C. 1. b., the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111. [40 CFR 63.865]

If emissions testing is required to re-establish the alternate emission limits for ES-LK4001 and ES-LK3 under 2.2 C. 1. g., testing shall be performed according to the procedures in 63.7, 63.865, and General Condition JJ. If the results of this test indicate that the alternate equivalency by permit emission limit as

calculated under 2.2 C. 1. g. is greater than the baseline emission rate as calculated under 2.2 C. 1. g., the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1111. [40 CFR 63.94]

Monitoring [15A NCAC 02D .1111, 63.864, and 40 CFR 63.94, Equivalency by Permit]

n. The Permittee must install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) at the outlet of Recovery Boiler No. 4 ESP (ID No. CD-4RB-ESP), Recovery Boiler No. 5 ESP (CD-5RB-ESP), and No. 4 Lime Kiln ESP (ID No. CD-K4021) that can be used to determine opacity at least once every successive 10-second period and calculate and record each successive 6-minute average opacity. The COMS data must be reduced as specified in 63.8(g)(2). The EPA has approved the use of a COMS with a 70 percent opacity full scale value at the Riegelwood Mill (see letter dated December 22, 2003) for Subpart MM compliance. [40 CFR 63.864(d)(10)]

o. The Permittee must install, calibrate, maintain, and operate a continuous monitoring system that can be used to determine and record the pressure drop and the scrubbing liquid flow rate on the No. 3 Lime Kiln Scrubber (ID No. CD-3LK-1). Monitoring on the No. 4 Lime Kiln Scrubber (ID No. CD-K4006) is not required per EPA's approval letter dated June 6, 2003. Pressure drop and scrubbing liquid flow rate for the No. 3 Lime Kiln Scrubber must be monitored at least once every successive 15-minute period using the procedures in 63.8(c), as well as the following procedures [40 CFR 63.864(e)(10) and (13)]:

   i. The monitoring device used for the continuous measurement of the pressure drop of the gas stream across the scrubber must be certified by the manufacturer to the accurate to within a gauge pressure of ±500 pascals (±2 inches of water gauge pressure); and

   ii. The monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate.

   Scrubber liquid flow shall be no less than 880 gpm (3-hour average) for CD-3LK-1. Scrubber differential pressure shall be no less than 19.6 in. water (3-hour average) for CD-3LK-1.

p. The Permittee must install, calibrate, maintain, and operate a continuous monitoring system that can be used to determine and record the fan amperage and the scrubbing liquid flow rate for the No. 4 Smelt Dissolving Tank Scrubber (ID No. CD-4ST-1) and Nos. 5E and 5W Smelt Dissolving Tank Scrubbers (ID Nos. CD-5EST-1 and CD-5WST-1). The fan amperage will be monitored in lieu of the differential pressure, per EPA's approval letter dated September 17, 2003. Fan amperage and scrubbing liquid flow rate must be monitored at least once every successive 15-minute period using the procedures in 63.8(c). The monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ±5 percent of the design scrubbing liquid flow rate.

   Scrubber liquid flow shall be no less than 148 gpm (3-hour average) for CD-4ST-1. Tank Scrubber fan amps shall be no less than 93 (3-hour average) for CD-4ST-1. Scrubber liquid flow shall be no less than 135 gpm (3-hour average) for CD-5EST-1 and 135 gpm (3-hour average) for CD-5WST-1. Scrubber fan amps shall be no less than 151 (3-hour average) for CD-5EST-1 and 152 (3-hour average) for CD-5WST-1. [40 CFR 63.864(e)(10) and (13)]

q. The Permittee may base operating ranges for the monitoring parameters in conditions 2.2 C. 1. o. and p. on values recorded during previous performance tests or conduct additional performance tests for the specific purpose of establishing operating ranges, provided that test data used to establish the operating ranges are or have been obtained using the test methods required in Subpart MM. The Permittee must certify that all control devices and processes have not been modified subsequent to the testing upon which the data used to establish the operating parameter ranges were obtained. The Permittee may establish expanded or replacement operating ranges during subsequent performance tests using the test methods in 63.865. The Permittee must continuously monitor each parameter and determine the arithmetic average value of each parameter during each performance test. Multiple performance tests may be conducted to establish a range of parameter values. When revised through performance testing, the monitoring parameter operating ranges in conditions 2.2 C. 1. o and p may be modified through an administrative amendment to the permit to reflect the results of the most recent performance test(s). The Permittee shall not use the updated values until the test results are incorporated into the permit. [40 CFR 63.864(j)]

r. The Permittee shall implement a corrective action, as specified in the startup, shutdown, and malfunction plan prepared under 63.866(a), if the following monitoring exceedances occur [63.864(k)(1)]:

i. For ES-RB4, ES-RB5 or ES-K4001, when the average of ten consecutive 6-minute averages results in a measurement greater than 20 percent opacity;

ii. For ES-LK3, ES-ST4, ES-ST5E and ES-ST5W, when any 3-hour average wet scrubber parameter value is outside the range of values in conditions 2.2 C. 1. o. and p.

s. The Permittee shall be in violation of 63.862 if the following monitoring exceedances occur [40 CFR 63.864(k)(2)]:

i. When opacity is greater than 35 percent (ES-RB4 or ES-RB5) or 20 percent (ES-K4001) for 6 percent or more of the operating time within any quarterly period, excluding periods of SSM;

ii. For ES-LK3, ES-ST4, ES-ST5E and ES-ST5W, when six or more 3-hour average parameter values within any 6-month reporting period are outside the range of values in conditions 2.2 C. 1. o. and p., excluding periods of SSM.

t. For purposes of determining the number of non-opacity monitoring exceedances, no more than one exceedance will be attributed in any given 24-hour period. [40 CFR 63.864(k)(3)]

Recordkeeping [15A NCAC 02D .1111, 40 CFR 63.866, and 40 CFR 63.94, Equivalency by Permit]

u. The Permittee must develop and implement a written plan as described in 63.6(e)(3) that contains specific procedures to be followed for operating and maintaining the source during periods of startup, shutdown, and malfunction, and a program of corrective action for malfunctioning process and control systems used to comply with Subpart MM. In addition to the information required in 63.6(e), the plan must include the requirements given in 63.866(a)(1) and (2). [40 CFR 63.866(a)]

v. The Permittee must maintain records of any occurrence when corrective action is required under condition 2.2 C. 1. r., and when a violation is noted under condition 2.2 C. 1. s. [40 CFR 63.866(b)]

w. In addition to the general records required by 63.10(b)(2), the Permittee must maintain records of the following information [40 CFR 63.866(c) and 40 CFR 63.94, Equivalency by Permit]:

i. Records of black liquor solids firing rates in units of Mg/d or ton/d for ES-RB4 and ES-RB5;

ii. Records of CaO production rates in units of Mg/d or ton/d for ES-LK3 and ES-K4001;

iii. Records of parameter monitoring data required under condition 2.2 C. 1. n. through p., including any period when the operating parameter levels were inconsistent with the levels in conditions 2.2 C. 1. o. and p., with a brief explanation of the cause of the deviation, the time the deviation occurred, the time corrective action was initiated and completed, and the corrective action taken;

iv. Records and documentation of supporting calculations for compliance determinations made under condition 2.2 C. 1. b through g;

v. Records of monitoring parameter ranges established under condition 2.2 C. 1. q.; and

vi. Records of the hours of operation for ES-LK3 and ES-K4001.

Reporting [15A NCAC 02D .1111, 40 CFR 63.867, and 40 CFR 63.94, Equivalency by Permit]

x. The Permittee must submit the applicable notifications from 40 CFR 63, Subpart A, as specified in Table 1 of Subpart MM. [40 CFR 63.867(a)]

y. After the Director has approved the emissions limits for any process unit, the Permittee must notify the Director before any of the following actions are taken [40 CFR 63.867(b)]:

i. The air pollution control system for any process unit subject to Subpart MM is modified (as defined in 63.861) or replaced;

ii. ES-RB4, ES-RB5, ES-K4001, ES-ST4, ES-ST5E or ES-ST5W is shut down for more than 60 consecutive days;

iii. A continuous monitoring parameter or the value or range of values of a continuous monitoring

parameter for any process unit subject to Subpart MM is changed; or

iv. The black liquor solids firing rate for ES-RB4 or ES-RB5 during any 24-hour averaging period is increased by more than 10 percent above the level measured during the most recent performance test.

z. If the Permittee seeks to perform the actions in condition 2.2 C. 1. y., the Permittee must recalculate the overall PM emissions limit for the group of process units subject to Subpart MM and resubmit the PM emission limits determined using the equations in conditions 2.2 C. 1. b. through g. to the Director. All modified PM emissions limits are subject to approval by the Director. [40 CFR 63.867(b)]

aa. The Permittee must report quarterly if measured parameters meet any of the conditions specified in condition 2.2 C. 1. s. This report must contain the information specified in 40 CFR 63.10(c) as well as the number and duration of occurrences when the source met or exceeded the conditions in condition 2.2 C. 1. r., and the number and duration of occurrences when the source met or exceeded the conditions in condition 2.2 C. 1. s. All instances of deviations from the requirements of this permit must be clearly identified in the report. Reporting excess emissions below the violation thresholds of conditions 2.2 C. 1. r. and s. does not constitute a violation of the applicable standard. [40 CFR 63.867(c)]

i. When no exceedances of parameters have occurred, the Permittee must submit a semiannual report stating that no excess emissions occurred during the reporting period.

ii. The Permittee may combine excess emissions and/or summary reports for the facility for Subpart MM and Subpart S.

2. 15A NCAC 02D .1109 CAA 112(j); CASE-BY-CASE MACT FOR START-UP, SHUTDOWN, OR MALFUNCTION (SSM) CONDITIONS IN 40 CFR PART 63, SUBPART MM REQUIREMENTS

No. 3 and No. 4 Lime Kilns

Startup

a. For the lime kilns (ID Nos. ES-LK3 and ES-K4001), startup begins when a burner flame is established to bring the operating temperature of the No. 3 Lime Kiln above 900 degrees F (chain section) and the No. 4 Lime Kiln above 1000 degrees F. Startup ends 8 hours after normal mudflow to the kiln has been established. Operators will operate the No. 3 Lime Kiln Scrubber with flow meeting the specifications for normal operations as defined in Section 2.2 C. 1. o. PRIOR to the introduction of lime mud to the kiln. For No. 4 Kiln, the electrostatic precipitator shall be running prior to introduction of lime mud. The period of startup for the kilns managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63 Subpart MM or 15A NCAC 02D .1111.

Shutdown

b. For the lime kilns (ID Nos. ES-LK3 and ES-K4001), shutdown begins when lime mud feed is stopped for the purposes of shutting down. Shutdown ends when there is no combustion of fuel in the lime kiln. During the period of lime kiln shutdown, operators will operate the No. 3 Lime Kiln scrubber with flow meeting the specifications for normal operations as defined in Section 2.2 C. 1. o. and the No. 4 Lime Kiln ESP will continue to operate. The period of shutdown for the lime kilns managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63 Subpart MM or 15A NCAC 02D .1111.

Malfunction

c. For the lime kilns (ID Nos. ES-LK3 and ES-K4001), the following work practice will be followed for parameter excursions due to malfunctions:

1. Upon knowledge of the parameter excursion, operators will take immediate steps to identify the root cause of the parameter excursion;
2. If the root cause of the parameter excursion cannot be determined within 4 operating hours from initial knowledge of parameter excursion, operators will initiate an orderly shutdown of the process. If the projected time to correct the parameter excursion exceeds 4 hours, operators will initiate an orderly shutdown of the process.
3. The parameter excursion shall be corrected as soon as practicable.

The period of malfunction for the lime kilns (ID Nos. ES-LK3 and ES-K4001), managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63 Subpart MM or 15A NCAC 02D .1111.

No. 4 and No. 5 Recovery Boilers

Startup

a. For Recovery Boiler No. 4 (ID No. ES-RB4) and Recovery Boiler No. 5 (ID No. ES-RB5), startup begins when auxiliary fuel (oil and/or gas) is introduced to the recovery boiler and the unit is brought on line (making steam into the header). Operators will energize the associated electrostatic precipitator PRIOR to the introduction of black liquor sprays to the boiler. The period of startup for the recovery boilers managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63 Subpart MM or 15A NCAC 02D .1111.

Shutdown

b. For Recovery Boiler No. 4 (ID No. ES-RB4) and Recovery Boiler No. 5 (ID No. ES-RB5), shutdown begins when auxiliary fuel (oil and/or gas) is introduced to the recovery boiler for the purposes of shutting down. Shutdown ends when there is no combustion of fuel in the recovery boiler. During the period of recovery boiler shutdown, operators will operate the electrostatic precipitator until black liquor feed to the nozzles has ceased. The period of shutdown for the recovery boilers managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63 Subpart MM or 15A NCAC 02D .1111.

Malfunction

c. For Recovery Boiler No. 4 (ID No. ES-RB4) and Recovery Boiler No. 5 (ID No. ES-RB5) the following work practice will be followed for parameter excursions due to malfunctions:

1. Upon knowledge of the parameter excursion, operators will take immediate steps to identify the root cause of the parameter excursion;
2. If the root cause of the parameter excursion cannot be determined within 2 operating hours from initial knowledge of parameter excursion, operators will initiate an orderly shutdown of the process. If the projected time to correct the parameter excursion exceeds 4 hours, operators will initiate an orderly shutdown of the process.
3. The parameter excursion shall be corrected as soon as practicable.

The period of malfunction for the recovery boilers managed in accordance with this work practice standard shall not be an excess emission under 40 CFR Part 63 Subpart MM or 15A NCAC 02D .1111.

D. 40 CFR 63, Subpart GGGGG Sources:

Source ID No.	Source Description	Control ID No	Control Description
ES-BLP1 through ES-BLP3	Black Liquor Pond Nos. 1-3 (regulation covers air emissions from remediation activities due to closure of the black liquor ponds – permittee is prohibited from any future storage of weak black liquor in storage ponds)	NA	NA

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	Compliance with the requirements of 40 CFR 63, Subpart GGGGG.	15 A NCAC 02D .1111 (40 CFR 63 Subpart GGGGG)

1. 15A NCAC 02D .1111: MACT 40 CFR 63 SUBPART GGGGG

a. The Permittee shall comply with all applicable provisions, including the notification, testing, reporting, recordkeeping, and monitoring requirements contained in Environmental Management Commission Standard 15A NCAC 02D .1111 "Maximum Achievable Control Technology" (MACT) as promulgated in 40 CFR Part 63 Subpart GGGGG, including Subpart A "General Provisions."

b. The Permittee shall maintain records that the total VOHAP concentration of the material being removed from the black liquor ponds is less than 500 ppmw. Once the VOHAP concentration has been determined to be less than 500 ppmw, all units downstream of the black liquor ponds meet the standards. Records must be maintained for at least 5 years following completion of the remediation activity. [40 CFR 63.7886(b)(2)]

STATE-ONLY REQUIREMENT

E. 15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSIONS

a. As part of Application No. 2400036.11B, a facility-wide toxics demonstration was received by DAQ on March 28, 2011. Pursuant to 15A NCAC 02D .1100 and in accordance with the approved application for an air toxic compliance demonstration, the following permit limits shall not be exceeded:

BLOX	Black Liquor Oxidation System **ES-RX-010** **ES-RX-011**	Acetaldehyde	2.64E+03 pounds per hour
		Acrolein	3.33E-01 pounds per hour
		Benzene	9.70E+02 pounds per year
		Carbon Disulfide	4.14E+02 pounds per day
		Chloroform	6.06E+02 pounds per year
		Formaldehyde	2.22E-01 pounds per hour
		n-Hexane	2.73E+02 pounds per day
		Hydrogen Sulfide	5.93E+01 pounds per day
		Methyl Ethyl Ketone (24-Hour)	3.50E+04 pounds per day
		Methyl Ethyl Ketone (1-Hour)	8.30E+03 pounds per hour
		Methyl Mercaptan	5.48E+00 pounds per hour
		Methylene Chloride (Annual)	8.63E+04 pounds per year
		Methylene Chloride (1-Hour)	4.30E+01 pounds per hour
		Phenol	4.29E+00 pounds per hour

PD	Pulp Dryer **ES-PD**	Acetaldehyde	8.57E+02 pounds per hour
		Acrolein	8.67E+00 pounds per hour
		Benzene	1.59E+03 pounds per year
		Carbon Disulfide	5.33E+01 pounds per day
		Chloroform	4.00E+03 pounds per year
		Formaldehyde	4.44E-01 pounds per hour
		Methyl Ethyl Ketone (24-Hour)	4.22E+03 pounds per day
		Methyl Ethyl Ketone (1-Hour)	1.00E+03 pounds per hour
		Methyl Mercaptan	1.41E+00 pounds per hour
		Methylene Chloride (Annual)	2.45E+05 pounds per year
		Methylene Chloride (1-Hour)	1.28E+02 pounds per hour
		Phenol	8.01E+01 pounds per hour

PACKBOIL	Package Boiler1 **ES-PKB1**	Arsenic	8.26E-01 pounds per year
		Benzene	1.60E+01 pounds per year
		Beryllium	6.86E+01 pounds per year
		Cadmium	8.23E+01 pounds per year
		Chromium VI	4.62E+00 pounds per day
		Formaldehyde	4.68E-02 pounds per hour
		n-Hexane	8.14E+03 pounds per day
		Manganese	2.39E+01 pounds per day
		Mercury	4.47E+00 pounds per day
		Nickel	2.01E-01 pounds per day

PACKBOIL	Package Boiler 2 **ES-PKB2**	Arsenic	8.26E-01 pounds per year
		Benzene	1.60E+01 pounds per year
		Beryllium	6.86E+01 pounds per year
		Cadmium	8.23E+01 pounds per year
		Chromium VI	4.62E+00 pounds per day
		Formaldehyde	4.68E-02 pounds per hour
		n-Hexane	8.14E+03 pounds per day
		Manganese	2.39E+01 pounds per day
		Mercury	4.47E+00 pounds per day
		Nickel	2.01E-01 pounds per day

PM-15	No. 15 Paper Machine **ES-J-009**	Acetaldehyde	2.93E+02 pounds per hour
		Acrolein	2.96E+00 pounds per hour
		Ammonia	2.68E+00 pounds per hour
		Arsenic	3.86E-02 pounds per year
		Benzene	6.38E+02 pounds per year
		Cadmium	3.85E+00 pounds per year
		Carbon Disulfide	1.82E+01 pounds per day
		Chloroform	1.60E+03 pounds per year
		Chromium VI	2.16E-01 pounds per day
		Formaldehyde	1.53E-01 pounds per hour
		n-Hexane	1.87E+02 pounds per day
		Manganese	5.47E-01 pounds per day
		Mercury	8.25E-03 pounds per day
		Methyl Ethyl Ketone (24-Hour)	1.44E+03 pounds per day
		Methyl Ethyl Ketone (1-Hour)	3.42E+02 pounds per hour
		Methyl Mercaptan	4.82E-01 pounds per hour
		Methylene Chloride (Annual)	9.81E+04 pounds per year
		Methylene Chloride (1-Hour)	4.36E+01 pounds per hour
		Nickel	2.99E-03 pounds per day
		Phenol	2.74E+01 pounds per hour

PM-18	No. 18 Paper Machine **ES-JJ-030**	Acetaldehyde	2.93E+02 pounds per hour
		Acrolein	2.96E+00 pounds per hour
		Ammonia	2.68E+00 pounds per hour
		Arsenic	3.86E-02 pounds per year
		Benzene	6.38E+02 pounds per year
		Cadmium	3.85E+00 pounds per year
		Carbon Disulfide	1.82E+01 pounds per day
		Chloroform	1.60E+03 pounds per year
		Chromium VI	2.16E-01 pounds per day
		Formaldehyde	1.53E-01 pounds per hour
		n-Hexane	1.87E+02 pounds per day

		Manganese	5.47E-01 pounds per day
		Mercury	8.25E-03 pounds per day
		Methyl Ethyl Ketone (24-Hour)	1.44E+03 pounds per day
		Methyl Ethyl Ketone (1-Hour)	3.42E+02 pounds per hour
		Methyl Mercaptan	4.82E-01 pounds per hour
		Methylene Chloride (Annual)	9.81E+04 pounds per year
		Methylene Chloride (1-Hour)	4.36E+01 pounds per hour
		Nickel	2.99E-03 pounds per day
		Phenol	2.74E+01 pounds per hour

FIBER	Heavy Black Liquor storage tanks	Acetaldehyde	1.35E+01 pounds per hour
	ES-R0264 (50% HBL Tk)	Benzene	3.01E-04 pounds per year
	ES-R0265 (50% HBL Tk)	Carbon Disulfide	6.38E+00 pounds per day
	ES-R0266 (50% HBL Tk)	Chloroform	7.76E+01 pounds per year
	ES-Z5091 (65% HBL Tk)	Formaldehyde	3.90E-03 pounds per hour
	ES-Z5096 (65% HBL Tk)	n-Hexane	2.01E+00 pounds per day
	ES-T003 (65% HBL Tk)	Hydrogen Sulfide	4.21E+01 pounds per day
		Methyl Ethyl Ketone (24-Hour)	1.38E+03 pounds per day
		Methyl Ethyl Ketone (1-Hour)	3.28E+02 pounds per hour
		Methyl Mercaptan	4.78E-01 pounds per hour
		Methylene Chloride (Annual)	3.00E+02 pounds per year
		Methylene Chloride (1-Hour)	1.33E-01 pounds per hour
		Phenol	1.87E-01 pounds per hour

CAUST	Causticizers	Acrolein	5.36E-02 pounds per hour
	ES-H-325	Ammonia	3.57E+01 pounds per hour
	ES-H-327	Benzene	3.01E+01 pounds per year
	ES-H-329	Carbon Disulfide	5.62E-02 pounds per day
	ES-H-332	Ethylene Dichloride	1.91E+02 pounds per year
	ES-H-185	Methyl Ethyl Ketone (24-Hour)	6.44E+00 pounds per day
	ES-H-184	Methyl Ethyl Ketone (1-Hour)	2.30E+00 pounds per hour
		Methylene Chloride (Annual)	3.35E+02 pounds per year
		Methylene Chloride (1-Hour)	1.49E-01 pounds per hour
		Phenol	3.95E-02 pounds per hour

CAUST	Slakers	Ammonia	9.47E+01 pounds per hour
	ES-SLK3	Benzene	9.87E+01 pounds per year
	ES-SLK6	Carbon Disulfide	3.51E-02 pounds per day
		n-Hexane	3.45E+00 pounds per day
		Methyl Ethyl Ketone (24-Hour)	1.55E+03 pounds per day
		Methyl Ethyl Ketone (1-Hour)	5.53E+02 pounds per hour
		Phenol	1.77E+00 pounds per hour

SVP	No. 3 ClO2 Generator (SVP)	Acetaldehyde	3.97E+00 pounds per hour
		Chlorine (24-Hour)	1.07E+02 pounds per day
	ES-LL-155 (No. 3)	Chlorine (1-Hour)	3.44E+01 pounds per hour
		Chloroform	5.79E+03 pounds per year
		Methylene Chloride (Annual)	3.82E+03 pounds per year
		Methylene Chloride (1-Hour)	1.70E+00 pounds per hour
		Phenol	6.03E-01 pounds per hour

WBLTK1	Weak Black Liquor Tank 1	Acetaldehyde	1.05E+00 pounds per hour
	ES-T001	Acrolein	1.30E-01 pounds per hour
		Benzene	1.37E-03 pounds per year
		1,3-Butadiene	1.73E+02 pounds per year
		Carbon Disulfide	4.98E+01 pounds per day
		Carbon Tetrachloride	3.70E+01 pounds per year
		Chloroform	1.54E+00 pounds per year
		Formaldehyde	2.42E-03 pounds per hour
		n-Hexane	3.34E-01 pounds per day
		Hydrogen Sulfide	3.04E+01 pounds per day
		Methyl Ethyl Ketone (24-Hour)	4.16E+02 pounds per day
		Methyl Ethyl Ketone (1-Hour)	9.88E+01 pounds per hour
		Methyl Mercaptan	9.69E-02 pounds per hour
		Methylene Chloride (Annual)	2.45E+03 pounds per year
		Methylene Chloride (1-Hour)	1.09E+00 pounds per hour

WBLTK2	Weak Black Liquor Tank 2	Acetaldehyde	1.05E+00 pounds per hour
	ES-T002	Acrolein	1.30E-01 pounds per hour
		Benzene	1.37E-03 pounds per year
		1,3-Butadiene	1.73E+02 pounds per year
		Carbon Disulfide	4.98E+01 pounds per day
		Carbon Tetrachloride	3.70E+01 pounds per year
		Chloroform	1.54E+00 pounds per year
		Formaldehyde	2.42E-03 pounds per hour
		n-Hexane	3.34E-01 pounds per day
		Hydrogen Sulfide	3.04E+01 pounds per day
		Methyl Ethyl Ketone (24-Hour)	4.16E+02 pounds per day
		Methyl Ethyl Ketone (1-Hour)	9.88E+01 pounds per hour
		Methyl Mercaptan	9.69E-02 pounds per hour
		Methylene Chloride (Annual)	2.45E+03 pounds per year
		Methylene Chloride (1-Hour)	1.09E+00 pounds per hour

BIGMWBL	Big M Weak Black Liquor Tank **ES-G96**	Acetaldehyde	1.05E+00 pounds per hour
		Acrolein	1.30E-01 pounds per hour
		Benzene	1.37E-03 pounds per year
		1,3-Butadiene	1.73E+02 pounds per year
		Carbon Disulfide	4.98E+01 pounds per day
		Carbon Tetrachloride	3.70E+01 pounds per year
		Chloroform	1.54E+00 pounds per year
		Formaldehyde	2.42E-03 pounds per hour
		n-Hexane	3.34E-01 pounds per day
		Hydrogen Sulfide	3.04E+01 pounds per day
		Methyl Ethyl Ketone (24-Hour)	4.16E+02 pounds per day
		Methyl Ethyl Ketone (1-Hour)	9.88E+01 pounds per hour
		Methyl Mercaptan	9.69E-02 pounds per hour
		Methylene Chloride (Annual)	2.45E+03 pounds per year
		Methylene Chloride (1-Hour)	1.09E+00 pounds per hour

WWTP	Wastewater Collection and Treatment **ES-WWTS**	Acetaldehyde	1.30E+02 pounds per hour
		Ammonia	4.12E-01 pounds per hour
		Chloroform	3.48E+00 pounds per year
		Cresol	1.10E-02 pounds per hour
		Formaldehyde	3.99E-02 pounds per hour
		Methyl Ethyl Ketone (24-Hour)	1.95E-01 pounds per day
		Methyl Ethyl Ketone (1-Hour)	1.11E+00 pounds per hour
		Phenol	5.14E-02 pounds per hour

F. Lime Kiln No. 3 (ID No. ES-LK3) and Lime Kiln No. 4 (ID No. ES-K4001)

The following table provides a summary of limits and standards for the emission source(s) describe above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Nitrogen Oxides	Less than a total of 402.75 tons per consecutive twelve month period total for both kilns.	15A NCAC 02Q .0317 (15A NCAC 02D .0530 Avoidance)

1. 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D. 0530: PREVENTION OF SIGNIFICANT DETERIORATION

a. In order to avoid applicability of 15A NCAC 02D .0530(g) for major sources and major modifications, the Lime Kilns (ID Nos. ES-LK3 and ES-K4001) combined, shall discharge into the atmosphere less 402.75 tons of nitrogen oxides per consecutive twelve month period.

Testing [15A NCAC 02Q .0508(f)]

b. If emissions testing is required, the testing shall be performed in accordance with General Condition JJ. If the results of this test are above the limits given in Section 2.2 F. 1. a. (ID Nos. ES-LK3 and ES-K4001) above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530.

Monitoring/ Recordkeeping [15A NCAC 02Q .0508(f)]

c. The Permittee shall not exceed a maximum of 402.75 tons of Nitrogen Oxides total for the Nos. 3 and 4 lime kilns (ID Nos. ES-LK3 and ES-K4001) combined, per consecutive twelve (12) month period. The Permittee shall be deemed in noncompliance with 15A NCAC 02D .0530 if the NOx emissions exceed this limit.

d. To ensure compliance, the Permittee shall record and maintain records of the NOx emissions from the Nos. 3 and 4 Lime Kilns (ID Nos. ES-LK3 and ES-K4001) during each month.
The record of the NOx emissions during each month shall be made available to an authorized representative of DAQ upon request.

Reporting [15A NCAC 02Q .0508(f)]

e. The Permittee shall submit a summary report of the monitoring and recordkeeping postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December and July 30 of each calendar year for the preceding six-month period between January and June. The report shall contain the following:
   i. the monthly NOx emissions from the Nos. 3 and 4 Lime Kilns (ID Nos. ES-LK3 and ES-K4001) for the previous 17 months. The total NOx emissions must be calculated for each of the 12-month periods over the previous 17 months; and
   ii. All instances of deviations from the requirements of this permit must be clearly identified

G. Facility-Wide

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
toxic air pollutants	**State-enforceable only –** fuel oil equivalency requirements	15A NCAC 02D .1100 **AVOIDANCE**

STATE-ONLY REQUIREMENT

1. 15A NCAC 02Q. 0317: AVOIDANCE CONDITIONS for 15A NCAC 02D .1100: TOXIC AIR POLLUTANT EMISSIONS

To avoid the requirements of 15A NCAC 02D .1100, the Permittee may:

Burn spilled oil cleanup residue from this site absorbed onto woodwaste in Power Boiler Nos. 2 and 5, provided that the absorbed waste oil does not exceed the ASTM specifications of unadulterated No. 6 fuel oil; and

Use on-specification used No. 4 fuel oil. The on-specification No. 4 fuel oil must be supplied by a DAQ-approved vendor as follows.

a. **Specifications** - The on-specification used No. 4 fuel oil shall be equivalent to unadulterated fossil fuel by meeting the following criteria:

Constituent/Property	Allowable Level
Arsenic	1 ppm maximum
Cadmium	2 ppm maximum
Chromium	5 ppm maximum
Lead	100 ppm maximum
Total Halogens	1000 ppm maximum
Flash Point	130 degrees F minimum
Sulfur	2.0% maximum (by weight)
Ash	1.0% maximum

The Permittee is responsible for ensuring that the on-specification used No. 4 fuel oil meets the approved criteria for unadulterated fuel. The Permittee is held responsible for any discrepancies discovered by DAQ as a result of any sampling and analysis of the fuel oil.

b. **Testing Requirement** - The Permittee shall analyze the No. 4 fuel oil for the Constituents listed in the table above annually.

c. Recordkeeping Requirements - The Permittee shall maintain at the facility for a minimum of three years, and shall make available to representatives of the DAQ upon request, accurate records of the following:
   i. the actual amount of on-specification used No. 4 fuel oil delivered to, and/or combusted at the facility on an annual basis.
   ii. the results of any analytical testing of the on-specification used No. 4 fuel oil or the oil blend as it is sampled and tested by the Permittee or vendor.
   iii. type and amount of woodwaste absorbed oil residue burned on an annual basis.

d. **Reporting Requirements** - Within 30 days after each calendar year, the Permittee shall submit in writing to the Regional Supervisor, DAQ, the following:
   i. a summary of the results of the annual analytical testing of the constituents in the No. 4 fuel oil.
   ii. the total gallons of on-specification used No. 4 fuel oil from each approved vendor combusted at the facility for the previous 12 months.

e. The DAQ reserves the right to require additional testing and/or monitoring of the on-specification used No. 4 fuel oil without notice.

H. Product Mix Project Sources

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
PSD compounds	Recordkeeping	15A NCAC 02D .0530(u)

1. 15A NCAC 02D .0530(u): USE OF PROJECTED ACTUAL EMISSIONS

Pursuant to 15A NCAC 02D .0530(u) because the Permittee relied on projected actual emissions for the purposes of demonstrating that the proposed project described in permit Application 2400036.15A, and as included in Permit No. 03138T41, for modifications to the No. 3 Bleach Plant, No. 18 Paper Machine, No. 4 Brownstock Washer line, Kamyr continuous digester (ID No. K1), Hardwood weak black liquor tank and No. 5 Recovery Furnace did not result in a significant emissions increase, the Permittee shall submit a report to the Regional Office within 60 days after the end of each calendar year during which these records must be generated. In addition to the items listed in the table below, the report shall contain the items listed in 40 CFR 51.166(r)(6)(v)(a) through (c). These records and reports shall be maintained for five years following the resumption of regular operations after the change.

I. No. 1 Power Boiler (ID No. ES-PB1); No. 2 Power Boiler (ID No. ES-PB2); and No. 5 Power Boiler (ID No. ES-PB5)

The following table provides a summary of limits and standards for the emission source(s) described above:

Regulated Pollutant	Limits/Standards	Applicable Regulation
Hazardous Air Pollutants	HAP emissions shall not exceed limits in Table A below	15A NCAC 02D .1109

1. 15A NCAC 02D .1109: 112(j) Case-by-Case MACT for Boilers

Initial Compliance Date

a. The initial compliance date for these emission limitations and associated monitoring, recordkeeping, and reporting requirements is February 21, 2014. These conditions need not be included on the annual compliance certification until after the initial compliance date.

Emission Limitations

b. Emissions from the power boilers (ID Nos. ES-PB1, ES-PB2 and ES-PB5) shall not exceed the emissions limits listed below:

Table A.
Emission Limitations

Pollutant	PB 1 (lbs/hour)	PB2 (lbs/hour)	PB5 (lbs/hour)	Fuel combusted
Mercury (Hg)	1.11E-04	0.574	0.538	Any***
Hydrogen Chloride (HCL)	0.595	4.77E+02	4.46E+02	
Beryllium	4.63E-05	1.13E-02	1.36E-02	
Cadmium	7.58E-04	1.21E-02	3.10E-02	
Lead	2.71E-03	0.682	2.56	
Manganese	5.00E-06	0.426	0.351	
Nickel	0.155	1.96	1.13	
Selenium	1.14E-03	0.139	0.169	
Hydrogen fluoride (HF)	6.54E-02	2.49	1.46	
Hydrogen cyanide (HCN)	8.02E-02	0.252	0.147	
TSM (Arsenic and Chromium)*	2E-03 lb/MMBtu			Residual fuel oils
	NA	3E-04 lb/MMBtu		Bark/woodfiber sludge/woodwaste absorbed oil residue
	NA	4E-04 lb/MMBtu		coal
Carbon Monoxide*,**	28ppmvd @ 7% O_2			No. 4 equivalent used oil, No. 6 fuel oil
	NA	834 ppmvd@7%O_2		Bark/woodfiber sludge/woodwaste absorbed oil residue
	NA	133 ppmvd@7%O_2		coal

*Emission Limitation is proportional to the heat input of the particular fuels combusted

** 30-day rolling average

*** No emission limitations associated with natural gas or distillate fuel combustion

c. The Permittee did not include the following HAPs in the HBCA site specific compliance demonstration: Arsenic and Chromium. Compliance with the TSM emission limitation in condition 2.2 I. 1. b. will be based on the summation of the emissions of Arsenic and Chromium.

d. For TSM and CO, the emission limitation is proportional to the heat input of the particular fuels combusted during the relevant averaging period.

TSM
$E_{TSM} = [(3E-04)(B) + (4E-04)(C) + (2E-03)(FO)]/(B + C + FO)$

Where:
E_{TSM} = TSM emission limitation in pounds per million Btu
B = heat input of bark/sludge in million Btus per hour;
C = heat input of coal in million Btu per hour, and
FO = heat input of No. 4/6 fuel oil in million Btu per hour

Carbon monoxide
$E_{CO} = [(834)(B) + (133)(C) + (28)(FO)]/(B + C + FO)$

Where:
E_{TSM} = CO emission limitation in ppmvd
B = heat input of bark/sludge in million Btus per hour;
C = heat input of coal in million Btu per hour, and
FO = heat input of No. 4/6 fuel oil in million Btu per hour

e. The emissions limitations for a specific fuel type in Table A shall only apply when the Permittee fires at least 10% of that fuel in a boiler on a 12-month rolling average heat input basis. If the Permittee fires less than 10% of a specific fuel in a boiler on a 12-month rolling average heat input basis, the respective emissions limitations and the associated testing, monitoring, and recordkeeping shall not apply, except the Permittee must maintain records of the amounts of each fuel fired according to condition 2.2 I. 1. bb.

Control Device and Continuous System Monitoring Requirements

f. The Permittee shall install operate and maintain control devices and continuous monitoring systems (CMS) for the boiler (ID No. PB1) as follows:

i. The Permittee shall operate the wet scrubber (ID No. CD-PB1-SCRB). The wet scrubber is not required while the boiler is solely burning natural gas.

ii. For the scrubber the Permittee shall perform a monthly external inspection and an internal inspection when the boiler is shut down during a major inspection interval (at least once every 18 months) and perform maintenance as recommended by the manufacturer.

iii. The Permittee shall install, operate, and maintain a scrubber atomizing nozzle flowmeter (CMS) on the wet scrubber.

iv. The Permittee shall maintain a 3-hour block average liquid flow-rate at or above the operating levels established during the performance test that demonstrated compliance with the applicable emission limits.

g. The Permittee shall install operate and maintain control devices and continuous monitoring systems (CMS) for each boiler (ID Nos. ES-PB2 and ES-PB5) as follows:

i. The Permittee shall operate a multicyclone (ID Nos. PB2-M and PB5-M) and wet scrubber (ID Nos. CD-PB2-SCRB and CD-PB5-SCRB) on each boiler. The wet scrubber is not required while the boiler is solely burning natural gas.

ii. For the scrubber the Permittee shall perform a monthly external inspection and an internal inspection when the boiler is shut down during a major inspection interval (at least once every 18 months) and perform maintenance as recommended by the manufacturer.

iii. The Permittee shall install, operate, and maintain a scrubbing liquid flowmeter (CMS) and a gas pressure drop indicator (CMS) on the wet scrubber.

iv. In lieu of the scrubbing liquid flowmeter, the Permittee may use motor amperage and corresponding pump curve to monitor the flow to the scrubber.

v. The Permittee shall maintain a 3-hour block average liquid flow-rate at or above the operating levels established during the performance test that demonstrated compliance with the applicable emission limits.

Site Specific Monitoring Plan

h. The Permittee must develop a site-specific monitoring plan for each required continuous monitoring system (CMS). The plan shall be submitted to the NC DAQ Stationary Source Compliance Branch (SSCB) at least 60 days before the initial performance evaluation of the CMS.

Boiler Inspection and Maintenance

i. For each boiler (ID Nos. PB1, PB2, and PB5), the Permittee shall perform an annual boiler inspection and maintenance as recommended by the manufacturer, or as a minimum, the inspection and maintenance requirement shall include the following:

i. Inspect the burners, and clean or replace any components of the burners as necessary;

ii. Inspect the flame pattern and make any adjustments to the burners necessary to optimize the flame pattern; and,

iii. Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly.

iv. The Permittee shall conduct at least one tune-up per calendar year to demonstrate compliance with this requirement.

Performance Testing

j. Performance testing shall be conducted in accordance with condition 2.2 I. 1. cc.

k. No performance testing is required if:

i. The facility can demonstrate compliance with any applicable emission limit using fuel analysis according to the procedures in the DAQ approved site-specific fuel analysis plan.

ii. The affected boiler only fires gaseous fuel and/or virgin or recycled distillate fuel oil, and complies with the following requirements:

A. The initial compliance demonstration requirement in condition 2.2 I. 1. q. iii.;

B. The monitoring/recordkeeping requirements in condition 2.2 I. 1. z. i.; and

C. The notification requirement in condition 2.2 I. 1. dd. vii.

iii. The facility demonstrates compliance with the CO limit using CO CEMS.

l. No performance testing or fuel analysis is required for HF and HCN.

m. Performance testing for HCL, if necessary, must be conducted prior to the wet scrubbers.

n. The Permittee shall demonstrate compliance with the CO emission limit(s) above by testing the Nos. 1, 2 and 5 Power Boilers (ID Nos. ES-PB1, ES-PB2 and ES-PB5) for carbon monoxide in accordance with a testing protocol approved by the DAQ. Details of the emissions testing and reporting requirements can be found in General Condition JJ. Following the initial performance test, further testing shall be performed once per calendar year no more than 15 months apart or as required thereafter. If the results of the initial performance test demonstrate results at less than 80 percent of the limit above, the testing frequency may be reduced to every five years. If the results of this or any test is above the applicable limit in Table A above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109. If the source only fires natural gas during the calendar year, testing is not required.

Fuel Analyses Plan

o. If the Permittee chooses to demonstrate compliance with this standard using one or more fuel analyses, the analyses shall be conducted according to a DAQ approved site-specific fuel analysis plan.

p. The Permittee shall develop and submit a site-specific fuel analysis plan to the NC DAQ – SSCB for review and approval no later than 60 days before the date that the Permittee plans to demonstrate

compliance.

Initial Compliance Requirements

q. The Permittee must demonstrate initial compliance with each emission limit and work practice standard that applies by either:
   i. Conducting initial performance tests and establishing required operating limits within 180 days of the initial compliance date;
   ii. Conducting initial fuel analyses to determine emission rates and establishing required operating limits within 180 days of the initial compliance date; or,
   iii. Where a source is firing only gaseous fuel and/or distillate fuel oil retain records demonstrating that the source only fires these fuels. An acceptable record may include a fuel oil certification from the vendor or receipts for fuel oil, natural gas, propane, and/or liquefied petroleum gas purchased by the facility.

Periodic Testing/Fuel Analysis Requirements

r. If the Permittee uses performance testing to demonstrate compliance with the standard, the Permittee must conduct all applicable performance tests on an annual basis, unless it meets the requirements listed in i. through iii. below. Annual performance tests, if required, must be completed between 11 and 13 months after the previous performance test.
   i. The Permittee may conduct performance tests less often for a given pollutant if the performance tests for at least 3 consecutive years show compliance with the emission limit. In this case, the Permittee need not conduct a performance test for that pollutant for the next 2 years, but must conduct a performance test during the third year and no more than 36 months after the previous performance test.
   ii. If the affected boiler or process heater continues to meet the emission limit, the Permittee may conduct performance tests every third year, but each such performance test must be conducted no more than 36 months after the previous performance test.
   iii. If a performance test shows noncompliance with an emission limit, the Permittee must conduct annual performance tests for that pollutant until all performance tests over a consecutive 3-year period show compliance.

s. If the Permittee uses fuel analysis to demonstrate compliance with the standard, the Permittee must conduct a fuel analysis on an annual basis. Each fuel analysis shall be conducted between 11 and 13 months after the previous analysis. If a fuel analysis shows a potential exceedance of an emission limitation in condition 2.2 I. 1. b. above, the Permittee shall conduct a follow-up stack test of the affected source within 90 days. If the Permittee cannot conduct a follow-up test within 90 days or the follow-up test shows an exceedance of the emission limitation in condition 2.2 I. 1. b. above, the Permittee shall be deemed in noncompliance with 15A NCAC 02D .1109.

t. If all fuel samples show a compound is below the detection limit, emissions of that compound can be considered zero. If some samples show the compound is detected, any non-detect values shall be considered at half the detection limit.

u. The Permittee must report the results of performance tests within 60 days after the completion of the performance tests and fuel analyses within a time frame approved in the site DAQ approved site-specific fuel analysis plan after the completion of the fuel analyses. This report should also verify that the operating limits for your affected source have not changed or provide documentation of revised operating parameters.

Recordkeeping Requirements

v. Maintain a copy of each notification and report required by this standard, including all documentation supporting any Notification of Compliance Status.

w. Maintain records of performance tests, fuel analyses, or other compliance demonstrations, and CMS performance evaluations.

x. For each required CEMS and CMS, maintain the following records:
   i. All required measurements needed to demonstrate compliance with a relevant standard (including,

but not limited to, 15-minute averages of CMS data, raw performance testing measurements, and raw performance evaluation measurements, that support data that the source is required to report);

ii. A record of each period during which a CMS is malfunctioning or inoperative (including out-of-control periods);

iii. All CMS calibration checks; and,

iv. All adjustments and maintenance performed on CMS;

y. Maintain records of all monitoring data and calculated averages for applicable operating limits such as pressure drop, flow rate, and carbon monoxide used to demonstrate compliance with the standard.

z. For each affected source, maintain the following records:

i. Records of monthly fuel use by each affected source, including the type(s) of fuel and amount(s) used.

ii. For each performance test used to demonstrate compliance, a copy of all calculations and supporting documentation.

iii. For each fuel analysis used to demonstrate compliance, a copy of all calculations and supporting documentation.

aa. The results of any required annual burner inspection and maintenance shall be maintained in a logbook (written or electronic format) on-site and made available to an authorized representative upon request. The logbook shall record the following:

i. The date of each recorded action;

ii. The results of each inspection; and,

iii. The results of any maintenance performed on the boilers.

bb. If the Permittee limits the firing of a specific fuel to less than 10% on 12-month average heat input basis, it shall create and retain the following records at least once per calendar month:

i. Record the fuel use by each affected source, including the type(s) of fuel and amount(s) used, during the previous calendar month; and,

ii. Calculate the 12-month average heat input from each fuel for each affected source during the previous 12-month period.

After the initial compliance date, if the annual average heat input of a fuel not accounted for during the initial compliance demonstration is equal to or greater than 10% for any 12-month period, the Permittee shall conduct an initial compliance test within 90 days following the end of the 12-month period (unless such date is *earlier than* 180 days following the initial compliance date, in which case the test shall be performed 180 days following the initial compliance date). Monitoring and recordkeeping requirements associated with the specific fuel firing shall be implemented as soon as practicable, and in no case later than 90 days following the end of the 12-month period. Until the completion of the initial compliance test, operating parameters for the scrubbers (if applicable) shall be based on the best engineering information available to the Permittee.

Performance Testing Notification and Reporting Requirements

cc. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ in support of a permit application or to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

i. The Permittee shall submit a completed Protocol Submittal Form to the DAQ Regional Supervisor at least 45 days prior to the scheduled test date. A copy of the Protocol Submittal Form may be obtained from the Regional Supervisor.

ii. The Permittee shall notify the Regional Supervisor of the specific test dates at least 15 days prior to testing in order to afford the DAQ the opportunity to have an observer on-site during the sampling program.

iii. During all sampling periods, the Permittee shall operate the emission source(s) under maximum normal operating conditions or alternative operating conditions as deemed appropriate by the Regional Supervisor or his delegate.

iv. The Permittee shall submit two copies of the test report to the DAQ. The test report shall contain at a minimum the following information:

A. a description of the training and air testing experience of the person directing the test;

B. a certification of the test results by sampling team leader and facility representative;
C a summary of emissions results and text detailing the objectives of the testing program, the applicable state and federal regulations, and conclusions about the testing and compliance status of the emission source(s);
D. a detailed description of the tested emission source(s) and sampling location(s) process flow diagrams, engineering drawings, and sampling location schematics should be included as necessary;
E. all field, analytical, and calibration data necessary to verify that the testing was performed as specified in the applicable test methods;
F. example calculations for at least one test run using equations in the applicable test methods and all test results including intermediate parameter calculations; and
G. documentation of facility operating conditions during all testing periods and an explanation relating these operating conditions to maximum normal operation. If necessary, provide historical process data to verify maximum normal operation.

v. The testing requirement(s) shall be considered satisfied only upon written approval of the test results by the DAQ.
vi. The DAQ will review emission test results with respect exclusively to the specified testing objectives as proposed by the Permittee and approved by the DAQ.

Reporting Requirements

Notification of Compliance Status

dd. The Permittee must submit a Notification of Compliance Status that meets the requirements of §63.9(h)(2)(ii) before the close of business on the 60th day following the completion of the final required performance test and/or other initial compliance demonstration. The Notification of Compliance Status report must contain the following information, as applicable:

i. A description of the affected source(s) including identification of which subcategory the source is in, the capacity of the source, a description of the add-on controls used on the source description of the fuel(s) burned, and justification for the fuel(s) burned during the performance test.
ii. Summary of the results of all performance tests, fuel analyses, and calculations conducted to demonstrate initial compliance including all established operating limits.
iii. Identification of whether the facility demonstrated compliance with each applicable emission limit through performance testing or fuel analysis.
iv. Identification of whether the facility plans to demonstrate compliance by emissions averaging.
v. A certification signed by the Responsible Official that the facility has met all applicable emission limits and work practice standards.
vi. A summary of the CO emissions monitoring data to show that the facility has met any applicable work practice standard or emission limitation in condition 2.2 I. 1. b.
vii. If the affected source fires only gaseous fuel and/or distillate fuel oil, include a certification of such that is signed by the Responsible Official.

Startup, Shutdown, and Malfunction Report

ee. The facility shall comply with the startup, shutdown, and malfunction requirements at 15A NCAC 02D .0535.

Duration

ff. The permittee shall comply with this CAA §112(j) standard until May 22, 2019. The initial compliance date for the applicable CAA §112(d) standard for ‘‘National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters” is May 23, 2019.

State Enforceable Only Requirement

J. 15A NCAC 02D .1806: CONTROL AND PROHIBITION OF ODOROUS EMISSIONS

a. The Permittee shall not operate the facility without implementing management practices or installing and operating odor control equipment sufficient to prevent odorous emissions, from the facility from causing or contributing to objectionable odors beyond the facility's boundary. The requirements of this rule do not apply to processes at kraft pulp mills identified in 15A NCAC 02D .0528, and covered under 15A NCAC 02D .0524 or 15A NCAC 02D .0528.

K. 15A NCAC 02Q .0504: OPTION FOR OBTAINING CONSTRUCTION AND OPERATION PERMIT

Permitting [15A NCAC 02Q .0504(d)]

a. For completion of the two-step significant modification process pursuant to 15A NCAC 02Q .0501(b)(2) or (c)(2), the Permittee shall file an amended application following the procedures of Section 15A NCAC 02Q .0500 within one year from the date of issuance of Air Permit No. 03138T42 for The No. 4 Turbine Project (Application No. 2400036.18A).

SECTION 3 - GENERAL CONDITIONS (version 5.3, 8/21/2018)

This section describes terms and conditions applicable to this Title V facility**.**

A. **General Provisions** [NCGS 143-215 and 15A NCAC 02Q .0508(i)(16)]

1. Terms not otherwise defined in this permit shall have the meaning assigned to such terms as defined in 15A NCAC 02D and 02Q.
2. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are binding and enforceable pursuant to NCGS 143-215.114A and 143-215.114B, including assessment of civil and/or criminal penalties. Any unauthorized deviation from the conditions of this permit may constitute grounds for revocation and/or enforcement action by the DAQ.
3. This permit is not a waiver of or approval of any other Department permits that may be required for other aspects of the facility which are not addressed in this permit.
4. This permit does not relieve the Permittee from liability for harm or injury to human health or welfare, animal or plant life, or property caused by the construction or operation of this permitted facility, or from penalties therefore, nor does it allow the Permittee to cause pollution in contravention of state laws or rules, unless specifically authorized by an order from the North Carolina Environmental Management Commission.
5. Except as identified as state-only requirements in this permit, all terms and conditions contained herein shall be enforceable by the DAQ, the EPA, and citizens of the United States as defined in the Federal Clean Air Act.
6. Any stationary source of air pollution shall not be operated, maintained, or modified without the appropriate and valid permits issued by the DAQ, unless the source is exempted by rule. The DAQ may issue a permit only after it receives reasonable assurance that the installation will not cause air pollution in violation of any of the applicable requirements. A permitted installation may only be operated, maintained, constructed, expanded, or modified in a manner that is consistent with the terms of this permit.

B. **Permit Availability** [15A NCAC 02Q .0507(k) and .0508(i)(9)(B)]
The Permittee shall have available at the facility a copy of this permit and shall retain for the duration of the permit term one complete copy of the application and any information submitted in support of the application package. The permit and application shall be made available to an authorized representative of Department of Environmental Quality upon request.

C. **Severability Clause** [15A NCAC 02Q .0508(i)(2)]
In the event of an administrative challenge to a final and binding permit in which a condition is held to be invalid, the provisions in this permit are severable so that all requirements contained in the permit, except those held to be invalid, shall remain valid and must be complied with.

D. **Submissions** [15A NCAC 02Q .0507(e) and 02Q .0508(i)(16)]
Except as otherwise specified herein, two copies of all documents, reports, test data, monitoring data, notifications, request for renewal, and any other information required by this permit shall be submitted to the appropriate Regional Office. Refer to the Regional Office address on the cover page of this permit. For continuous emissions monitoring systems (CEMS) reports, continuous opacity monitoring systems (COMS) reports, quality assurance (QA)/quality control (QC) reports, acid rain CEM certification reports, and NOx budget CEM certification reports, one copy shall be sent to the appropriate Regional Office and one copy shall be sent to:

Supervisor, Stationary Source Compliance
North Carolina Division of Air Quality
1641 Mail Service Center
Raleigh, NC 27699-1641

All submittals shall include the facility name and Facility ID number (refer to the cover page of this permit).

E. **Duty to Comply** [15A NCAC 02Q .0508(i)(3)]
The Permittee shall comply with all terms, conditions, requirements, limitations and restrictions set forth in this permit. Noncompliance with any permit condition except conditions identified as state-only requirements constitutes a

violation of the Federal Clean Air Act. Noncompliance with any permit condition is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

F. **Circumvention** - STATE ENFORCEABLE ONLY
The facility shall be properly operated and maintained at all times in a manner that will effect an overall reduction in air pollution. Unless otherwise specified by this permit, no emission source may be operated without the concurrent operation of its associated air pollution control device(s) and appurtenances.

G. **Permit Modifications**
1. Administrative Permit Amendments [15A NCAC 02Q .0514]
   The Permittee shall submit an application for an administrative permit amendment in accordance with 15A NCAC 02Q .0514.
2. Transfer in Ownership or Operation and Application Submittal Content [15A NCAC 02Q .0524 and 02Q .0505]
   The Permittee shall submit an application for an ownership change in accordance with 15A NCAC 02Q.0524 and 02Q .0505.
3. Minor Permit Modifications [15A NCAC 02Q .0515]
   The Permittee shall submit an application for a minor permit modification in accordance with 15A NCAC 02Q .0515.
4. Significant Permit Modifications [15A NCAC 02Q .0516]
   The Permittee shall submit an application for a significant permit modification in accordance with 15A NCAC 02Q .0516.
5. Reopening for Cause [15A NCAC 02Q .0517]
   The Permittee shall submit an application for reopening for cause in accordance with 15A NCAC 02Q .0517.

H. **Changes Not Requiring Permit Modifications**
1. Reporting Requirements
   Any of the following that would result in new or increased emissions from the emission source(s) listed in Section 1 must be reported to the Regional Supervisor, DAQ:
   a. changes in the information submitted in the application;
   b. changes that modify equipment or processes; or
   c. changes in the quantity or quality of materials processed.

   If appropriate, modifications to the permit may then be made by the DAQ to reflect any necessary changes in the permit conditions. In no case are any new or increased emissions allowed that will cause a violation of the emission limitations specified herein.

2. Section 502(b)(10) Changes [15A NCAC 02Q .0523(a)]
   a. "Section 502(b)(10) changes" means changes that contravene an express permit term or condition. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
   b. The Permittee may make Section 502(b)(10) changes without having the permit revised if:
      i. the changes are not a modification under Title I of the Federal Clean Air Act;
      ii. the changes do not cause the allowable emissions under the permit to be exceeded;
      iii. the Permittee notifies the Director and EPA with written notification at least seven days before the change is made; and
      iv. the Permittee shall attach the notice to the relevant permit.
   c. The written notification shall include:
      i. a description of the change;
      ii. the date on which the change will occur;
      iii. any change in emissions; and
      iv. any permit term or condition that is no longer applicable as a result of the change.
   d. Section 502(b)(10) changes shall be made in the permit the next time that the permit is revised or renewed, whichever comes first.
3. Off Permit Changes [15A NCAC 02Q .0523(b)]
   The Permittee may make changes in the operation or emissions without revising the permit if:
   a. the change affects only insignificant activities and the activities remain insignificant after the change; or
   b. the change is not covered under any applicable requirement.

4. Emissions Trading [15A NCAC 02Q .0523(c)]
   To the extent that emissions trading is allowed under 15A NCAC 02D, including subsequently adopted maximum achievable control technology standards, emissions trading shall be allowed without permit revision pursuant to 15A NCAC 02Q .0523(c).

I.A **Reporting Requirements for Excess Emissions and Permit Deviations** [15A NCAC 02D .0535(f) and 02Q .0508(f)(2)]

"Excess Emissions" - means an emission rate that exceeds any applicable emission limitation or standard allowed by any rule in Sections .0500, .0900, .1200, or .1400 of Subchapter 02D; or by a permit condition; or that exceeds an emission limit established in a permit issued under 15A NCAC 02Q .0700. *(Note: Definitions of excess emissions under 02D .1110 and 02D .1111 shall apply where defined by rule.)*

"Deviations" - for the purposes of this condition, any action or condition not in accordance with the terms and conditions of this permit including those attributable to upset conditions as well as excess emissions as defined above lasting less than four hours.

Excess Emissions

1. If a source is required to report excess emissions under NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or the operating permit provides for periodic (e.g., quarterly) reporting of excess emissions, reporting shall be performed as prescribed therein.
2. If the source is not subject to NSPS (15A NCAC 02D .0524), NESHAPS (15A NCAC 02D .1110 or .1111), or these rules do NOT define "excess emissions," the Permittee shall report excess emissions in accordance with 15A NCAC 02D .0535 as follows:
   a. Pursuant to 15A NCAC 02D .0535, if excess emissions last for more than four hours resulting from a malfunction, a breakdown of process or control equipment, or any other abnormal condition, the owner or operator shall:
      i. notify the Regional Supervisor or Director of any such occurrence by 9:00 a.m. Eastern Time of the Division's next business day of becoming aware of the occurrence and provide:
         - name and location of the facility;
         - nature and cause of the malfunction or breakdown;
         - time when the malfunction or breakdown is first observed;
         - expected duration; and
         - estimated rate of emissions;
      ii. notify the Regional Supervisor or Director immediately when corrective measures have been accomplished; and
      iii. submit to the Regional Supervisor or Director within 15 days a written report as described in 15A NCAC 02D .0535(f)(3).

Permit Deviations

3. Pursuant to 15A NCAC 02Q .0508(f)(2), the Permittee shall report deviations from permit requirements (terms and conditions) as follows:
   a. Notify the Regional Supervisor or Director of all other deviations from permit requirements not covered under 15A NCAC 02D .0535 quarterly. A written report to the Regional Supervisor shall include the probable cause of such deviation and any corrective actions or preventative actions taken. The responsible official shall certify all deviations from permit requirements.

I.B **Other Requirements under 15A NCAC 02D .0535**

The Permittee shall comply with all other applicable requirements contained in 15A NCAC 02D .0535, including 15A NCAC 02D .0535(c) as follows:

1. Any excess emissions that do not occur during start-up and shut-down shall be considered a violation of the appropriate rule unless the owner or operator of the sources demonstrates to the Director, that the excess emissions are a result of a malfunction. The Director shall consider, along with any other pertinent information, the criteria contained in 15A NCAC 02D .0535(c)(1) through (7).
2. 15A NCAC 02D .0535(g). Excess emissions during start-up and shut-down shall be considered a violation of the appropriate rule if the owner or operator cannot demonstrate that excess emissions are unavoidable.

J. **Emergency Provisions** [40 CFR 70.6(g)]
The Permittee shall be subject to the following provisions with respect to emergencies:
1. An emergency means any situation arising from sudden and reasonably unforeseeable events beyond the control of the facility, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions specified in 3. below are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that include information as follows:
   a. an emergency occurred and the Permittee can identify the cause(s) of the emergency;
   b. the permitted facility was at the time being properly operated;
   c. during the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the standards or other requirements in the permit; and
   d. the Permittee submitted notice of the emergency to the DAQ within two working days of the time when emission limitations were exceeded due to the emergency. This notice must contain a description of the emergency, steps taken to mitigate emissions, and corrective actions taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
5. This provision is in addition to any emergency or upset provision contained in any applicable requirement specified elsewhere herein.

K. **Permit Renewal** [15A NCAC 02Q .0508(e) and 02Q .0513(b)]
This 15A NCAC 02Q .0500 permit is issued for a fixed term not to exceed five years and shall expire at the end of its term. Permit expiration terminates the facility's right to operate unless a complete 15A NCAC 02Q .0500 renewal application is submitted at least six months before the date of permit expiration. If the Permittee or applicant has complied with 15A NCAC 02Q .0512(b)(1), this 15A NCAC 02Q .0500 permit shall not expire until the renewal permit has been issued or denied. Permit expiration under 15A NCAC 02Q .0400 terminates the facility's right to operate unless a complete 15A NCAC 02Q .0400 renewal application is submitted at least six months before the date of permit expiration for facilities subject to 15A NCAC 02Q .0400 requirements. In either of these events, all terms and conditions of these permits shall remain in effect until the renewal permits have been issued or denied.

L. **Need to Halt or Reduce Activity Not a Defense** [15A NCAC 02Q .0508(i)(4)]
It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

M. **Duty to Provide Information (submittal of information)** [15A NCAC 02Q .0508(i)(9)]
1. The Permittee shall furnish to the DAQ, in a timely manner, any reasonable information that the Director may request in **writing** to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit.
2. The Permittee shall furnish the DAQ copies of records required to be kept by the permit when such copies are requested by the Director. For information claimed to be confidential, the Permittee may furnish such records directly to the EPA upon request along with a claim of confidentiality.

N. **Duty to Supplement** [15A NCAC 02Q .0507(f)]
The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to the DAQ. The Permittee shall also provide additional information as necessary to address any requirement that becomes applicable to the facility after the date a complete permit application was submitted but prior to the release of the draft permit.

O. **Retention of Records** [15A NCAC 02Q .0508(f) and 02Q .0508 (l)]
The Permittee shall retain records of all required monitoring data and supporting information for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Supporting information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring information, and copies of all reports required by the permit. These records shall be maintained in a form suitable and

readily available for expeditious inspection and review. Any records required by the conditions of this permit shall be kept on site and made available to DAQ personnel for inspection upon request.

P. **Compliance Certification** [15A NCAC 02Q .0508(n)]
The Permittee shall submit to the DAQ and the EPA (Air and EPCRA Enforcement Branch, EPA, Region 4, 61 Forsyth Street SW, Atlanta, GA 30303) postmarked on or before March 1 a compliance certification (for the preceding calendar year) by a responsible official with all federally-enforceable terms and conditions in the permit, including emissions limitations, standards, or work practices. It shall be the responsibility of the current owner to submit a compliance certification for the entire year regardless of who owned the facility during the year. The compliance certification shall comply with additional requirements as may be specified under Sections 114(a)(3) or 504(b) of the Federal Clean Air Act. The compliance certification shall specify:
1. the identification of each term or condition of the permit that is the basis of the certification;
2. the compliance status (with the terms and conditions of the permit for the period covered by the certification);
3. whether compliance was continuous or intermittent; and
4. the method(s) used for determining the compliance status of the source during the certification period.

Q. **Certification by Responsible Official** [15A NCAC 02Q .0520]
A responsible official shall certify the truth, accuracy, and completeness of any application form, report, or compliance certification required by this permit. All certifications shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

R. **Permit Shield for Applicable Requirements** [15A NCAC 02Q .0512]
1. Compliance with the terms and conditions of this permit shall be deemed compliance with applicable requirements, where such applicable requirements are included and specifically identified in the permit as of the date of permit issuance.
2. A permit shield shall not alter or affect:
   a. the power of the Commission, Secretary of the Department, or Governor under NCGS 143-215.3(a)(12), or EPA under Section 303 of the Federal Clean Air Act;
   b. the liability of an owner or operator of a facility for any violation of applicable requirements prior to the effective date of the permit or at the time of permit issuance;
   c. the applicable requirements under Title IV; or
   d. the ability of the Director or the EPA under Section 114 of the Federal Clean Air Act to obtain information to determine compliance of the facility with its permit.
3. A permit shield does not apply to any change made at a facility that does not require a permit or permit revision made under 15A NCAC 02Q .0523.
4. A permit shield does not extend to minor permit modifications made under 15A NCAC 02Q .0515.

S. **Termination, Modification, and Revocation of the Permit** [15A NCAC 02Q .0519]
The Director may terminate, modify, or revoke and reissue this permit if:
1. the information contained in the application or presented in support thereof is determined to be incorrect;
2. the conditions under which the permit or permit renewal was granted have changed;
3. violations of conditions contained in the permit have occurred;
4. the EPA requests that the permit be revoked under 40 CFR 70.7(g) or 70.8(d); or
5. the Director finds that termination, modification, or revocation and reissuance of the permit is necessary to carry out the purpose of NCGS Chapter 143, Article 21B.

T. **Insignificant Activities** [15A NCAC 02Q .0503]
Because an emission source or activity is insignificant does not mean that the emission source or activity is exempted from any applicable requirement or that the owner or operator of the source is exempted from demonstrating compliance with any applicable requirement. The Permittee shall have available at the facility at all times and made available to an authorized representative upon request, documentation, including calculations, if necessary, to demonstrate that an emission source or activity is insignificant.

U. **Property Rights** [15A NCAC 02Q .0508(i)(8)]
This permit does not convey any property rights in either real or personal property or any exclusive privileges.

V. **Inspection and Entry** [15A NCAC 02Q .0508(l) and NCGS 143-215.3(a)(2)]

1. Upon presentation of credentials and other documents as may be required by law, the Permittee shall allow the DAQ, or an authorized representative, to perform the following:
   a. enter the Permittee's premises where the permitted facility is located or emissions-related activity is conducted, or where records are kept under the conditions of the permit;
   b. have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
   c. inspect at reasonable times and using reasonable safety practices any source, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
   d. sample or monitor substances or parameters, using reasonable safety practices, for the purpose of assuring compliance with the permit or applicable requirements at reasonable times.

   Nothing in this condition shall limit the ability of the EPA to inspect or enter the premises of the Permittee under Section 114 or other provisions of the Federal Clean Air Act.
2. No person shall refuse entry or access to any authorized representative of the DAQ who requests entry for purposes of inspection, and who presents appropriate credentials, nor shall any person obstruct, hamper, or interfere with any such authorized representative while in the process of carrying out his official duties. Refusal of entry or access may constitute grounds for permit revocation and assessment of civil penalties.

W. **Annual Fee Payment** [15A NCAC 02Q .0508(i)(10)]

1. The Permittee shall pay all fees in accordance with 15A NCAC 02Q .0200.
2. Payment of fees may be by check or money order made payable to the N.C. Department of Environmental Quality. Annual permit fee payments shall refer to the permit number.
3. If, within 30 days after being billed, the Permittee fails to pay an annual fee, the Director may initiate action to terminate the permit under 15A NCAC 02Q .0519.

X. **Annual Emission Inventory Requirements** [15A NCAC 02Q .0207]

The Permittee shall report by **June 30 of each year** the actual emissions of each air pollutant listed in 15A NCAC 02Q .0207(a) from each emission source within the facility during the previous calendar year. The report shall be in or on such form as may be established by the Director. The accuracy of the report shall be certified by a responsible official of the facility.

Y. **Confidential Information** [15A NCAC 02Q .0107 and 02Q. 0508(i)(9)]

Whenever the Permittee submits information under a claim of confidentiality pursuant to 15A NCAC 02Q .0107, the Permittee may also submit a copy of all such information and claim directly to the EPA upon request. All requests for confidentiality must be in accordance with 15A NCAC 02Q .0107.

Z. **Construction and Operation Permits** [15A NCAC 02Q .0100 and .0300]

A construction and operating permit shall be obtained by the Permittee for any proposed new or modified facility or emission source which is not exempted from having a permit prior to the beginning of construction or modification, in accordance with all applicable provisions of 15A NCAC 02Q .0100 and .0300.

AA. **Standard Application Form and Required Information** [15A NCAC 02Q .0505 and .0507]

The Permittee shall submit applications and required information in accordance with the provisions of 15A NCAC 02Q .0505 and .0507.

BB. **Financial Responsibility and Compliance History [**15A NCAC 02Q .0507(d)(4)]

The DAQ may require an applicant to submit a statement of financial qualifications and/or a statement of substantial compliance history.

CC. **Refrigerant Requirements (Stratospheric Ozone and Climate Protection)** [15A NCAC 02Q .0501(e)]

1. If the Permittee has appliances or refrigeration equipment, including air conditioning equipment, which use Class I or II ozone-depleting substances such as chlorofluorocarbons and hydrochlorofluorocarbons listed as refrigerants in 40 CFR Part 82 Subpart A Appendices A and B, the Permittee shall service, repair, and maintain

such equipment according to the work practices, personnel certification requirements, and certified recycling and recovery equipment specified in 40 CFR Part 82 Subpart F.

2. The Permittee shall not knowingly vent or otherwise release any Class I or II substance into the environment during the repair, servicing, maintenance, or disposal of any such device except as provided in 40 CFR Part 82 Subpart F.
3. The Permittee shall comply with all reporting and recordkeeping requirements of 40 CFR 82.166. Reports shall be submitted to the EPA or its designee as required.

DD. **Prevention of Accidental Releases - Section 112(r)** [15A NCAC 02Q .0508(h)]
If the Permittee is required to develop and register a Risk Management Plan with EPA pursuant to Section 112(r) of the Clean Air Act, then the Permittee is required to register this plan in accordance with 40 CFR Part 68.

EE. **Prevention of Accidental Releases General Duty Clause - Section 112(r)(1) –** FEDERALLY-ENFORCEABLE ONLY
Although a risk management plan may not be required, if the Permittee produces, processes, handles, or stores any amount of a listed hazardous substance, the Permittee has a general duty to take such steps as are necessary to prevent the accidental release of such substance and to minimize the consequences of any release.

FF. **Title IV Allowances** [15A NCAC 02Q .0508(i)(1)]
This permit does not limit the number of Title IV allowances held by the Permittee, but the Permittee may not use allowances as a defense to noncompliance with any other applicable requirement. The Permittee's emissions may not exceed any allowances that the facility lawfully holds under Title IV of the Federal Clean Air Act.

GG. **Air Pollution Emergency Episode** [15A NCAC 02D .0300]
Should the Director of the DAQ declare an Air Pollution Emergency Episode, the Permittee will be required to operate in accordance with the Permittee's previously approved Emission Reduction Plan or, in the absence of an approved plan, with the appropriate requirements specified in 15A NCAC 02D .0300.

HH. **Registration of Air Pollution Sources** [15A NCAC 02D .0202]
The Director of the DAQ may require the Permittee to register a source of air pollution. If the Permittee is required to register a source of air pollution, this registration and required information will be in accordance with 15A NCAC 02D .0202(b).

II. **Ambient Air Quality Standards** [15A NCAC 02D .0501(c)]
In addition to any control or manner of operation necessary to meet emission standards specified in this permit, any source of air pollution shall be operated with such control or in such manner that the source shall not cause the ambient air quality standards in 15A NCAC 02D .0400 to be exceeded at any point beyond the premises on which the source is located. When controls more stringent than named in the applicable emission standards in this permit are required to prevent violation of the ambient air quality standards or are required to create an offset, the permit shall contain a condition requiring these controls.

JJ. **General Emissions Testing and Reporting Requirements** [15A NCAC 02Q .0508(i)(16)]
Emission compliance testing shall be by the procedures of Section .2600, except as may be otherwise required in Rules .0524, .0912, .1110, .1111, or .1415 of Subchapter 02D. If emissions testing is required by this permit or the DAQ or if the Permittee submits emissions testing to the DAQ to demonstrate compliance, the Permittee shall perform such testing in accordance with 15A NCAC 02D .2600 and follow the procedures outlined below:

1. The owner or operator of the source shall arrange for air emission testing protocols to be provided to the Director prior to air pollution testing. Testing protocols are not required to be pre-approved by the Director prior to air pollution testing. The Director shall review air emission testing protocols for pre-approval prior to testing if requested by the owner or operator at least **45 days** before conducting the test.
2. Any person proposing to conduct an emissions test to demonstrate compliance with an applicable standard shall notify the Director at least **15 days** before beginning the test so that the Director may at his option observe the test.
3. The owner or operator of the source shall arrange for controlling and measuring the production rates during the period of air testing. The owner or operator of the source shall ensure that the equipment or process being tested is operated at the production rate that best fulfills the purpose of the test. The individual conducting the emission test shall describe the procedures used to obtain accurate process data and include in the test report the average production rates determined during each testing period.

4. Two copies of the final air emission test report shall be submitted to the Director not later than **30 days** after sample collection unless otherwise specified in the specific conditions. The owner or operator may request an extension to submit the final test report. The Director shall approve an extension request if he finds that the extension request is a result of actions beyond the control of the owner or operator.
    a. The Director shall make the final determination regarding any testing procedure deviation and the validity of the compliance test. The Director may:
        i. Allow deviations from a method specified under a rule in this Section if the owner or operator of the source being tested demonstrates to the satisfaction of the Director that the specified method is inappropriate for the source being tested.
        ii. Prescribe alternate test procedures on an individual basis when he finds that the alternative method is necessary to secure more reliable test data.
        iii. Prescribe or approve methods on an individual basis for sources or pollutants for which no test method is specified in this Section if the methods can be demonstrated to determine compliance of permitted emission sources or pollutants.
    b. The Director may authorize the Division of Air Quality to conduct independent tests of any source subject to a rule in this Subchapter to determine the compliance status of that source or to verify any test data submitted relating to that source. Any test conducted by the Division of Air Quality using the appropriate testing procedures described in Section 02D .2600 has precedence over all other tests.

KK. **Reopening for Cause** [15A NCAC 02Q .0517]

1. A permit shall be reopened and revised under the following circumstances:
    a. additional applicable requirements become applicable to a facility with remaining permit term of three or more years;
    b. additional requirements (including excess emission requirements) become applicable to a source covered by Title IV;
    c. the Director or EPA finds that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit; or
    d. the Director or EPA determines that the permit must be revised or revoked to assure compliance with the applicable requirements.
2. Any permit reopening shall be completed or a revised permit issued within 18 months after the applicable requirement is promulgated. No reopening is required if the effective date of the requirement is after the expiration of the permit term unless the term of the permit was extended pursuant to 15A NCAC 02Q .0513(c).
3. Except for the state-enforceable only portion of the permit, the procedures set out in 15A NCAC 02Q .0507, .0521, or .0522 shall be followed to reissue the permit. If the State-enforceable only portion of the permit is reopened, the procedures in 15A NCAC 02Q .0300 shall be followed. The proceedings shall affect only those parts of the permit for which cause to reopen exists.
4. The Director shall notify the Permittee at least 60 days in advance of the date that the permit is to be reopened, except in cases of imminent threat to public health or safety the notification period may be less than 60 days.
5. Within 90 days, or 180 days if the EPA extends the response period, after receiving notification from the EPA that a permit needs to be terminated, modified, or revoked and reissued, the Director shall send to the EPA a proposed determination of termination, modification, or revocation and reissuance, as appropriate.

LL. **Reporting Requirements for Non-Operating Equipment** [15A NCAC 02Q .0508(i)(16)]

The Permittee shall maintain a record of operation for permitted equipment noting whenever the equipment is taken from and placed into operation. When permitted equipment is not in operation, the requirements for testing, monitoring, and recordkeeping are suspended until operation resumes.

MM. **Fugitive Dust Control Requirement** [15A NCAC 02D .0540]

As required by 15A NCAC 02D .0540 "Particulates from Fugitive Dust Emission Sources," the Permittee shall not cause or allow fugitive dust emissions to cause or contribute to substantive complaints or excess visible emissions beyond the property boundary. If substantive complaints or excessive fugitive dust emissions from the facility are observed beyond the property boundaries for six minutes in any one hour (using Reference Method 22 in 40 CFR, Appendix A), the owner or operator may be required to submit a fugitive dust plan as described in 02D .0540(f).

"Fugitive dust emissions" means particulate matter from process operations that does not pass through a process stack or vent and that is generated within plant property boundaries from activities such as: unloading and loading areas, process areas, stockpiles, stock pile working, plant parking lots, and plant roads (including access roads and haul roads).

NN. **Specific Permit Modifications** [15A NCAC 02Q .0501 and .0523]

1. For modifications made pursuant to 15A NCAC 02Q .0501(c)(2), the Permittee shall file a Title V Air Quality Permit Application for the air emission source(s) and associated air pollution control device(s) on or before 12 months after commencing operation.
2. For modifications made pursuant to 15A NCAC 02Q .0501(d)(2), the Permittee shall not begin operation of the air emission source(s) and associated air pollution control device(s) until a Title V Air Quality Permit Application is filed and a construction and operation permit following the procedures of Section .0500 (except for Rule .0504 of this Section) is obtained.
3. For modifications made pursuant to 502(b)(10), in accordance with 15A NCAC 02Q .0523(a)(1)(C), the Permittee shall notify the Director and EPA (EPA - Air Planning Branch, 61 Forsyth Street SW, Atlanta, GA 30303) in writing at least seven days before the change is made. The written notification shall include:
   a. a description of the change at the facility;
   b. the date on which the change will occur;
   c. any change in emissions; and
   d. any permit term or condition that is no longer applicable as a result of the change.

In addition to this notification requirement, with the next significant modification or Air Quality Permit renewal, the Permittee shall submit a page "E5" of the application forms signed by the responsible official verifying that the application for the 502(b)(10) change/modification, is true, accurate, and complete. Further note that modifications made pursuant to 502(b)(10) do not relieve the Permittee from satisfying preconstruction requirements.

OO. **Third Party Participation and EPA Review** [15A NCAC 02Q .0521, .0522 and .0525(7)]

For permits modifications subject to 45-day review by the federal Environmental Protection Agency (EPA), EPA's decision to not object to the proposed permit is considered final and binding on the EPA and absent a third party petition, the failure to object is the end of EPA's decision-making process with respect to the revisions to the permit. The time period available to submit a public petition pursuant to 15A NCAC 02Q .0518 begins at the end of the 45-day EPA review period.

ATTACHMENT

List of Acronyms

AOS	Alternative Operating Scenario
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CAIR	Clean Air Interstate Rule
CEM	Continuous Emission Monitor
CFR	Code of Federal Regulations
DAQ	Division of Air Quality
DEQ	Department of Environmental Quality
EMC	Environmental Management Commission
EPA	Environmental Protection Agency
FR	Federal Register
GACT	Generally Available Control Technology
HAP	Hazardous Air Pollutant
MACT	Maximum Achievable Control Technology
NAA	Non-Attainment Area
NCAC	North Carolina Administrative Code
NCGS	North Carolina General Statutes
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_X	Nitrogen Oxides
NSPS	New Source Performance Standard
OAH	Office of Administrative Hearings
PM	Particulate Matter
PM_{10}	Particulate Matter with Nominal Aerodynamic Diameter of 10 Micrometers or Less
POS	Primary Operating Scenario
PSD	Prevention of Significant Deterioration
RACT	Reasonably Available Control Technology
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SO_2	Sulfur Dioxide
tpy	Tons Per Year
VOC	Volatile Organic Compound